

# SmartCount

## Automatic Passenger Counter



**We provide a system solution to ridership determination by integrating an advanced Automatic Passenger Counter (APC) with the OrbCAD vehicle equipment suite to collect accurate Ridership information.**

The data you receive is used to produce user-friendly reports and graphs that give you an accurate picture of your ridership for improved transit management and planning.

### SmartCount:

Xerox's state-of-the-art Automatic Passenger Counter, provides end-to-end transit integration that simplifies the function of ridership determination. Xerox's passive infrared APC offers advantages over traditional infrared beam devices in that it does not require narrow passageways or barriers to obtain accurate counts.

### Sensor:

The SmartCount sensor is mounted over a vehicle doorway or other location that affords a full field of view and 'looks down' at travelers as they enter or leave a vehicle, transfer from one vehicle to another, or pass through a turnstile. SmartCount observes thermal mass movement and is calibrated to recognize people of all sizes.

### SmartCount Advantages:

- Analyzer and IR Sensors.
- Discriminates between a number of passengers moving in and out.
- Determines passenger boardings and alightings for each door during door open/close cycles using over-head infrared sensors.
- Dispatchers have access to a complete representation of the passenger load during service.
- Interface with IVU-3100 via J1708.
- Small, robust, flexible and reliable with an accuracy of 95 %.

## On the vehicle:

The APC is a passive triple-sensor infrared APC mounted above the bus doors. Typical accuracy is 95 % on-board the bus, even before post-processing of data. As compared to other technologies, our APC contains no moving parts and supports both single and double wide door configurations. The overhead mounting arrangement has the ability to detect and count simultaneous passenger entry and exit. APCs can be integrated with Xerox's OrbStar MDT on-board computer avoiding the typical duplication of electronics between traditional stand-alone APC systems and other vehicle equipment. The OrbStar MDT vehicle computer fuses the raw APC data with AVL position information and other critical data to create a complete representation of the passenger load of the vehicle every time passengers enter or exit the bus. The ridership information includes: date, time, vehicle ID, block ID, vehicle boarding and alighting counts, latitude, longitude, and odometer reading. This comprehensive information packet greatly reduces post-processing of raw data and facilitates user-friendly reporting and analysis.

## Communication:

The stored Ridership Information is transferred from the OrbStar MDT vehicle computer to the fixed end system via Wireless Local Area Network (WLAN). This is done with an automatic file transfer, typically at the end of the operating day in the bus service lane. However, because WLAN technology is easy to install, a high-speed near-vicinity data link can be placed nearly anywhere buses pass through. It is also possible for more than one day's worth of APC data to be stored on-board the bus should the operational need arise.

This wireless, automatic design approach provides several advantages, such as:

- Eliminates the need for changing disks or other manual data download tasks on the vehicle.
- Once it is downloaded and processed, fully formatted, APC data is immediately available on your system. Daily reports can be easily produced for the start of the next business day.

## Contact us.

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