Tolltex

Distributed I/O Lane Controller

The Tolltex Distributed I/O Lane Controller consists of a rack mount controller that can be located up to 1,300 feet away from the lanes. A separate intelligent I/O module located near the toll lane interfaces with equipment such as loops, gates, lights, card readers, receipt printers, and other components. Communications between the lane controller and the distributed I/O module is across a high-speed link.

Lane Controller

- Rack Mount design fits into standard 19-inch equipment racks.
- Lane controller located away from in-lane devices (i.e., in plaza building).
- Small form factor based on 2U Chassis (3.5" H x 19" W x 21" D).
- Butterfly back plane with 2 full-size PCI slots and 3 full-size ISA slots.
- 700Mhz Pentium III CPU, 20GB hard disk, 64MB RAM (minimum).
- 250 watt power supply (minimum).
- 100BaseT Ethernet (fiber available).
- Tolltex-developed software for controlling and monitoring distributed I/O signals and devices.

3.5" High Rack Mount Lane Controller

Located Up To 1,300 Feet From Toll Lane

Linked to I/O Module via High-Speed Network

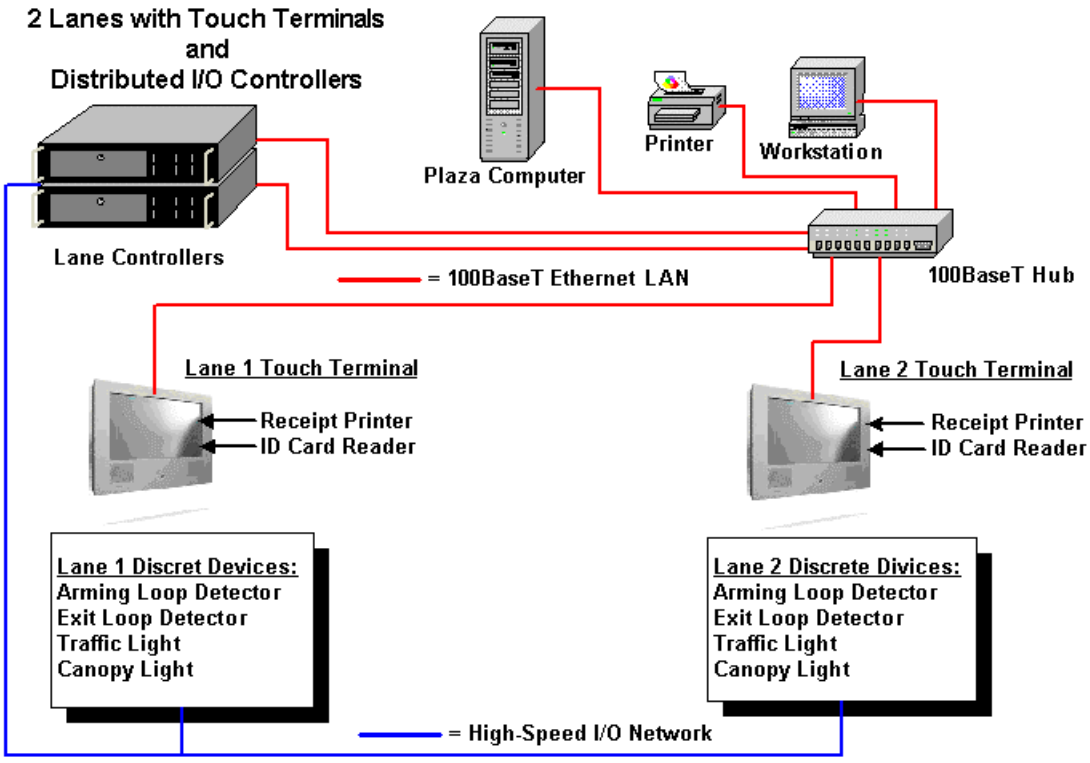
Distributed I/O Module

- Intelligent I/O module located near toll lane for digital input/output, serial RS232 and RS422 devices. I/O Module can be placed up to 1,300 feet away from the lane controller.
- I/O modules linked to lane controller via a high-speed link using the DIN standard for remote I/O.
- High-speed link to the lane controller is via a single copper or fiber optic cable.
- Simplifies configuration and reduces the amount of conduit and cabling.
- Separating I/O from the lane controller improves maintenance.

Distributed I/O Module Located Near Toll Lane

2-Lane Sample Configuration

The image below shows two lanes based on the Tolltex Distributed I/O Lane controllers located in the toll plaza building and Network Touch Terminals located in the toll booths.



Note how the cabling from the plaza building to each lane is simplified. The blue lines indicate the high-speed distributed I/O network and the red lines indicate the 100BaseT network. The receipt printers and card readers connect to the touch terminal.

Multiple Lane Support

If budget is an issue, the design of the High-Speed I/O network used by the Distributed I/O Controller allows one controller to support multiple lanes. This is possible due to the multi-drop capability offered by the remote I/O modules.

This is shown in the illustration below. In this example, an 8-lane toll plaza is supported by 3 lane controllers. One controller is a "hot spare" meaning during normal operations, 2 lane controllers are supporting the 8 lanes. In case of a failure, the "hot spare" is quickly put into service by the plaza computer issuing a remote command to set its configuration.