



# Merrill Field Airport

– Anchorage, Alaska



## Profile:

Merrill Field Airport's security system consisted of a five-foot fence, several readers with one master code, and insufficient maintenance capabilities. This combination made controlling access impossible. Gate security was easily breached and inadequately controlled with garage door type clickers; one clicker for each gate. Customers were required to carry several clickers to pass through multiple gates. The airport access road intersects two taxiways. Drivers have strayed onto the taxiways and runways from these intersections.

Merrill Field Airport, Anchorage, Alaska is home to almost 1,000 general aviation aircraft. Merrill Field Airport is rich in heritage and provides a central hub for business operations in Alaska. Merrill Field installed an access control system as part of a Federal Aviation Administration (FAA) mandated runway incursion program.

"The public airport has multiple roads that lead into it," said Pat Williams, Integrated Systems Manager for SimplexGrinnell, the supplying company. "People turn in the wrong direction and onto a taxiway or sometimes on the runway."

When the FAA mandated an access control system be installed, Security Programs Manager for Merrill Field Airport, Bill Edwards, put the job out for public bid. GE Interlogix, InfoGraphics, along with SimplexGrinnell, Hattenburg & Dilley, and Edwards designed a system that met Merrill Field's specific requirements. Swanson General Contractors installed the system.

Merrill Field Airport installed GE Interlogix, InfoGraphics' Sapphire Pro access control system with ACU-R2 Intelligent Control Panels. Thirty-one entryways implemented rolling vehicle gates with proximity readers. A rolling vehicle gate is a fence on wheels with a motor that energizes when a card is read. A person must present a proximity card or enter an access code to gain access through the gates. The timed motor rolls the gate back so a vehicle can drive through. If a bumper of a car or a person touches the gate, it will stop. All other vehicle gates have been chained closed.

"Sapphire Pro eliminated the problem of vehicles going out onto runways," said Edwards. "Sapphire Pro makes it a lot easier. Customers need only one card to go through any number of gates, and we can get rid of the master code."

"We now have an emergency access code that is released to the fire and police

- Bill Edwards  
Security Project Manager

*"SAPPHIRE Pro makes it a lot easier. Customers need only one card to go through any number of gates."*



# Merrill Field Airport

-Anchorage, Alaska

departments and all law enforcement officials," said Edwards. "I can track who is using it and when. I really like that."

Two railroad crossing style gates deter cars from driving onto the taxiways. Remote sensors control the taxiway arms while Sapphire Pro monitors arm positions. If an arm has been raised for more than five minutes, an alarm sounds notifying the staff of a possible problem.

Regular airport users use cards and gate access codes to gain access; visitors are given a time-limited access code. Each reader has a keypad to be used by anyone not possessing a card. Each leaseholder establishes a pin for their gate and controls who has that pin.

Fifteen pedestrian gates have been installed at various locations around the airport. Pedestrians must enter a code on a mechanical cipher lock to enter the airport. The gates close automatically with a gravity driven device to ensure public safety. Merrill Field plans to raise its fence to seven feet to keep out trespassers.

"Since we've installed Sapphire Pro and the pedestrian gates, there has been a 50 percent drop in the vehicle/pedestrian incursion rate," said Edwards.

The extensive reporting features monitor the gates. If a gate is causing a problem, the maintenance staff investigates. A few minutes spent looking at a computer to get that information is easy. In the past, the airport maintenance staff had to physically test all the gates. If a gate has been open

too long, Edwards works with the lease owners and maintenance staff to close it. Safety is the top priority at Merrill Field Airport and lease owners happily comply.

Maintaining the database is easy with Sapphire Pro. One head-end computer connects to the server over a wireless local area network. Staff can program a new card in the system in five minutes.

Edwards appreciates the ACU Intelligent Controllers' capabilities. "If the ACUs lose connection, they'll operate autonomously using the last information downloaded and continue to function. The system hasn't failed, and it worked flawlessly during the last harsh Alaska winter."

## Challenges and Solutions

*Challenge: Multiple roads led into the airport.*

*Solution: Thirty-one entryways implemented rolling vehicle gates that are monitored by Sapphire Pro.*

*Challenge: Keep pedestrians from walking through airport.*

*Solution: Pedestrian gates installed.*

*Challenge: Eliminate a well-known mastercode.*

*Solution: Install proximity readers and issue cards with predetermined access levels.*

## Specifications:

Sapphire Pro access control system  
31 rolling gates and proximity readers  
15 pedestrian gates  
2 taxiway arms

