

FIREFIGHTING GOES RUGGED HI-TECH

Frustration with the enormous paper shuffle led to an idea – how to save firefighters precious time and effort in aircraft emergency rescue, aircraft pre-incident and other emergency response situations utilizing mobile computers.

THE ORGANIZATION

Peterson Air Force Base (AFB) has a history of leadership in implementing and managing new technologies. In 1982 United States Air Force officials activated Air Force Space Command at Peterson AFB. Today Peterson AFB is the home of the 21st Space Wing, the Air Force's only organization responsible for worldwide missile warning and space control.

The men and women of the 21st Space Wing, Team 21, work throughout the Colorado Springs area in what is known as the Peterson Complex—Peterson Air

Force Base, Schriever Air Force Base and Cheyenne Mountain Air Station—as well 25 locations in 9 countries around the globe.

In addition to their operational missions, Team 21 serves as host unit of the Peterson Complex for four major military headquarters—North American Aerospace Defense Command, U.S. Northern Command, Air Force Space Command and Army Strategic Command—as well as the 302nd Airlift Wing (Reserve) and many tenant units from other major commands.

The Peterson Air Force Base Fire Department serves this community and has various responsibilities including responding to aircraft emergency situations.

THE PROBLEM - THE OLD METHOD

The department's Aircraft Emergency Rescue Information technical order contains almost 3,000 color pages. Those pages must be color-coded for firefighters to distinguish various aircraft components and hazards. We routinely update more than 6,000 pages of emergency response plans on hundreds of aircraft, thousands of hazardous chemicals and also the layouts of Peterson's buildings – information that our firefighters require to ensure that an emergency does not escalate. In an emergency, our response crews must be experts on the type of accelerants present onboard an aircraft and the best way to extinguish the fire. Our firefighters would



- **Easy to Use:** We can zoom in and out on maps with instant access to information at our fingertips. Applications can be opened with the touch of an icon. Lightweight and powerful, firefighters can even use the Tablets' input pens while wearing protective gloves.
- **Rugged:** The iX104 is MIL STD designed and tested to verify its ability to survive extreme environments. The product has 30 unique rugged design elements.
- **Easy to Maintain:** Updates are done using a pen drive or CD ROM so there is no need to replace pages.
- **Viewable:** Each of the Rugged Tablet PCs are hand-held with an ample screen for good viewing, compatible with any program using a Windows operating system.

THE BENEFITS

We implemented the entire program, downloaded it onto an Xplore iX104 rugged tablet PC and tested it during actual emergencies. Our firefighters have tested it and prefer it to the

paper technical order. The cost savings alone resulted in the rugged Tablet PCs paying for themselves. The Tablet PCs enable users to download cost-free, save and access all information required for emergency responses.

Peterson Air Force Base realized substantial cost savings, quicker access to emergency data, ease of updates of emergency information, the Xplore unit's compact size is manually much easier to use than a 14 pound technical order, and less storage space is wasted on fire vehicles. There is complete compatibility

with other computers, projectors and various electronic media for classroom training. No administrative workload printing copies and updates and much more data can be stored on the PC than a multitude of other required emergency reference publications carried in fire vehicle cabs.

Today, the bulky binders are gone from the Peterson Air Force Base. The emergency crew uses an electronic stylus on a Rugged Tablet PC screen and an aircraft's profile instantly pops up. The screen shows us all the hazards associated with the aircraft. Using a Tablet PC to access a database of the formerly papers-only manuals not only saves money, but the time it saves firefighters makes the difference between life and death in a critical situation.



normally have to search through 45 pound binders, through pages of technical data, with detailed profiles for 250 types of aircraft. If someone dropped a book, all the pages would fall out. To print one color copy of any document is not only expensive but time-consuming and involves a volume of papers. Each technical order must be replaced every two years, unless there is an update or a mid-year revision. The cost of printing and maintenance



of one copy, including the cost of document protectors, three-ring binders, updates and spoilage is almost \$3,000 per vehicle every two years. With 5 fire vehicles involved, the cost is about \$15,000. The technical order is only one of a multitude of emergency reference documents required for firefighters. We currently have to print out copies of technical orders, facility and aircraft pre-fire plans, emergency response checklists and

guidebooks, and assorted Air Force publications. We have to look through thousands of pages in books that weigh over 12 pounds each.

The department believed that by utilizing an electronic tool like a tablet pc (personal computer), the department could realize significant savings on reproducing technical orders as well as improved efficiencies.

THE SOLUTION - THE NEW METHOD

We found an electronic tool that would allow storage and quick access to all those items for a minimal cost – the Xplore Technologies iX104 rugged Tablet PC. This tablet proved to be the best solution for us for a number of reasons:

- **Weight:** The iX104 weighs about 4 pounds. One Aircraft Emergency Rescue Information technical order weighs 14 pounds.
- **Accessibility:** By purchasing Xplore's iX104 for the department's emergency response vehicles, firefighters will have quick access to information required for emergency responses. No more wasting time searching through thousands of pages looking for one item. We can download them into an electronic format.
- **Portability:** Units are portable and are hand-held, no more wasted time printing, replacing and tracking paper products. Firefighters will not have a heavy, dangerous, unsecured item in a fire truck cab during an emergency response. The Xplore Rugged Tablet PC is protected and secured in a case bolted to the inside of the fire vehicles, affording instant emergency access and portability outside of the vehicle when required.

We received a Best Practice Award for implementing the rugged Tablet PC program at Peterson Air Force Base. This is a first in the Air Force. The rugged Tablet PCs allow quicker access than any Fire Department in the Air Force (and DoD) to emergency aircraft information for every aircraft in the DoD inventory and for facility pre-incident plans by implementing the latest in technology.

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