

WIRELESS COMMUNICATIONS: A Firefighter's Lifeline

John Penido, Fire Chief
City of San Marino, CA

FIREFIGHTERS DEPEND UPON WIRELESS COMMUNICATIONS

A Day in the Life of a
Firefighter



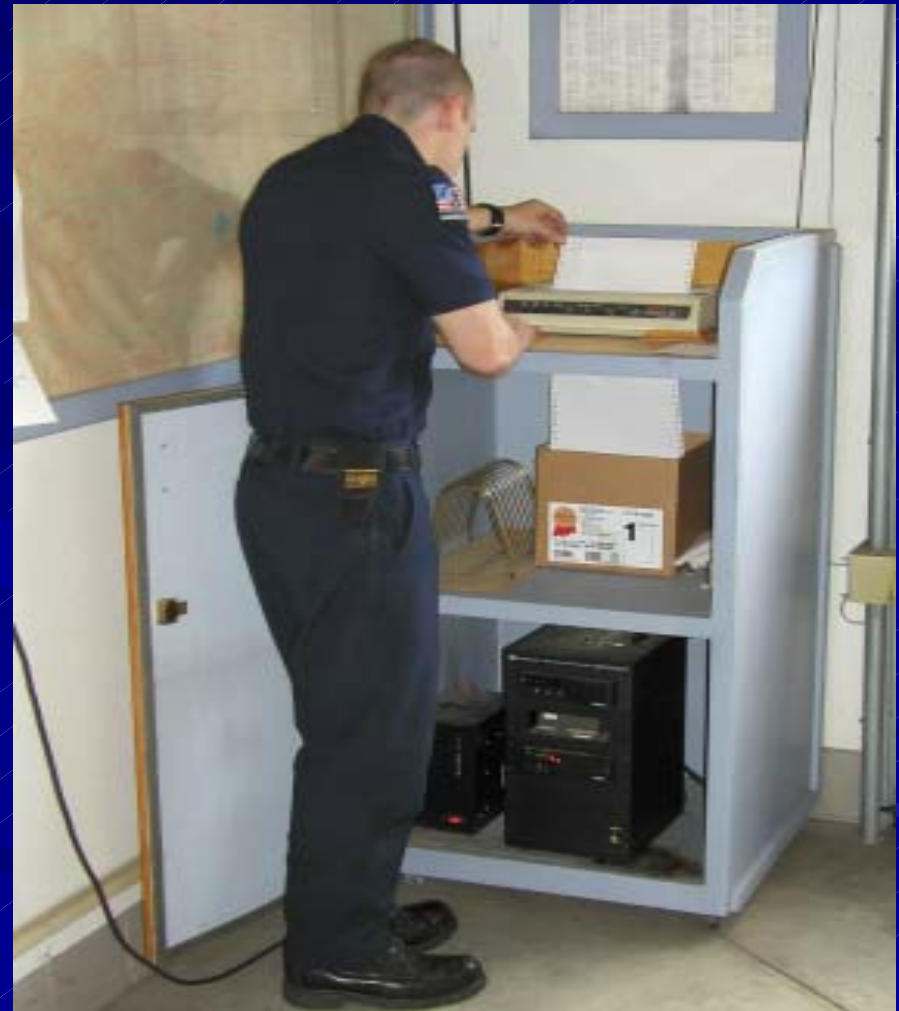
AUTOMATIC VEHICLE LOCATOR

- CAD selects the closest unit to respond based upon data provided by GPS/AVL



STATION ALERTING

- Industry standards require at least two methods for alerting fire stations
- Usually two separate radio systems



MOBILE COMPUTERS

- CAD transmits incident information to:
 - Station
 - Vehicles
 - Pagers



GPS NAVIGATION

- Aids firefighters responding to mutual aid calls in other communities
- Especially helpful on Strike Team assignments in other counties



TRAFFIC PREEMPTION

- Optical Emitters or Wireless Transmitters



TRAFFIC PREEMPTION

- Captures Green Signal for Fire Engine
- All Other Motorists See Red Signal
- Fire Engines Encountering Red Signal Must Come to Complete Stop



INFRARED CAMERA

- Allows Firefighters to See Through Smoke



INFRARED CAMERA

- Transmits Images to Command Post





Symphonic

VHS Hi-Fi
DIGITAL THERMISTOR CONTROL
SEARCH, PAUSE, REVERSE

AC/DC
MULTI POWER
SYSTEM

HANDHELD RADIO

- Essential Tool for Firefighter Safety



HANDHELD RADIO

- Distress Signal Alerts Dispatcher
- Identifies Individual in Distress
- Cannot Identify Location



INTEROPERABILITY ISSUES

- Urban Agencies Must Use Multiple Bands



INTEROPERABILITY ISSUES

- Los Angeles County Agencies Use
 - VHF (Low Band)
 - VHF (High Band)
 - UHF
 - UHF (TV)
 - 800 MHz



CELLULAR CONGESTION

- Cell Phones
Unreliable at Major
Emergencies
- Incident Managers
Need Priority Over
Other Users
- Technology Exists,
but Carriers Reluctant



EMERGENCY OPERATIONS CENTER

- Radio May Provide the Only Link with the Outside World
 - Report Damage to County and State
 - Request Mutual Aid Resources



EMERGENCY OPERATIONS CENTER

- Broadcast TV is an Effective Periscope
 - Numerous TV Aircraft Provide Multiple Views of Impacted Areas



FIREFIGHTERS NEED

- More Spectrum
 - One Band Exclusively for Public Safety
 - Ultra Wide Band for Data Downloads
- Cell Site Priority
- Hardened Communications Infrastructure
- Firefighter Locator Devices

