

Santa Barbara EOC

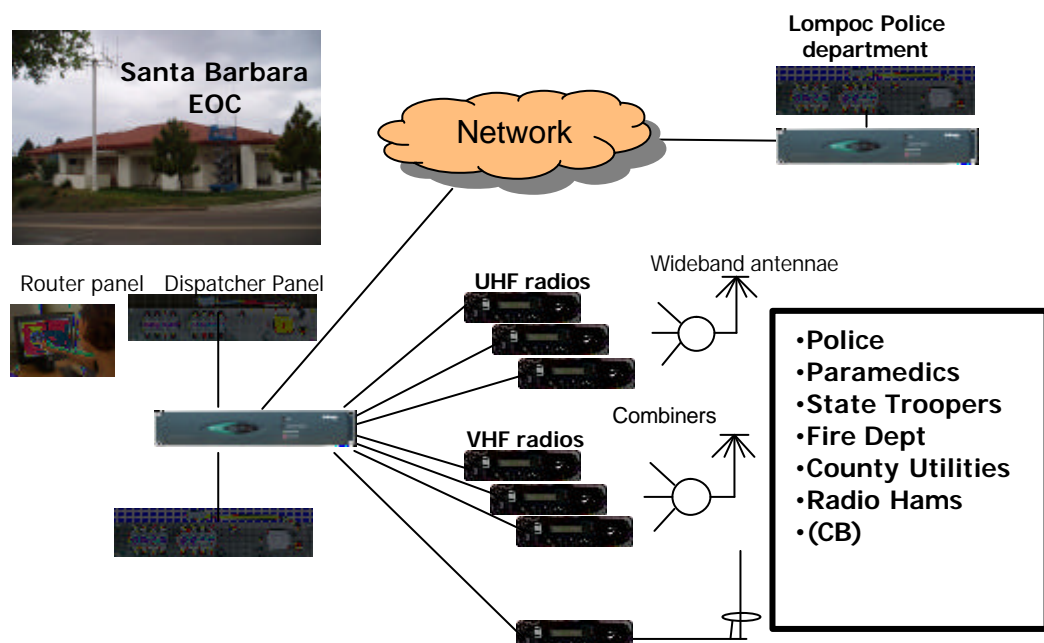
Radio interoperability trial

Trilogy, in conjunction with the Santa Barbara County Sheriff's dept and integration partner IPS, recently carried out a radio interoperability trial as part of a large scale Emergency Simulation exercise.

Santa Barbara County is situated some three hours drive North of Los Angeles and as such is positioned across an area where earthquake activity is prevalent. The Emergency Operations Centre (EOC) is part of a complex of buildings which include the Sheriff's Dept and County Gaol. EOC staff have been seeking ways to improve their efficiency during major emergencies whether from terrorism or natural disaster. In particular, they identified a problem in being able to co-ordinate the various rescue, relief and security agencies as each has its own radio network and dispatchers. In order to direct agencies following a common strategy, it is necessary to be able to address groups of relief workers at a specific location according to common group instructions in addition to dynamically arrange talk through between staff working on different radio networks. The Mercury system from Trilogy is a powerful tool to provide such facilities to relief agencies and the Santa Barbara trial offered an excellent demonstration of Mercury in action.

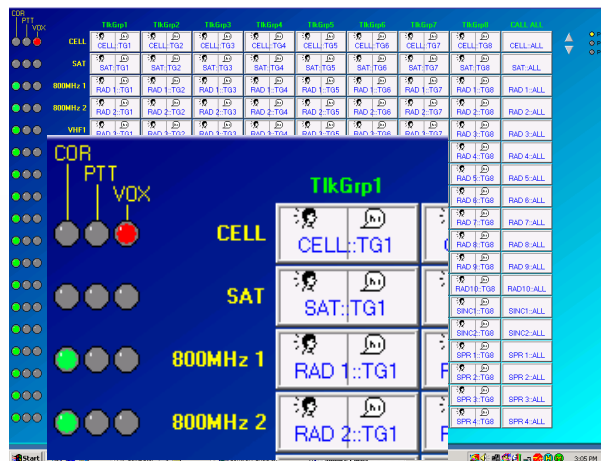
A Trilogy Mercury Interface Unit (MIU) is at the heart of the installation which provides all the audio routing, processing and audio conditioning. A set of standard VHF and UHF radios were then installed in a rack adjacent to the MIU with each radio tuned to the individual services: Fire, Police, Paramedics, State troopers etc. The radio PTT and COR signals were also connected to the MIU which provides the appropriate signalisation to and from the radio. For the trial, groups of radio antenna feeds were combined and fed to wideband antennae mounted as high as possible to provide maximum coverage.

- ◆ **Interfaces to most analog / digital radios**
- ◆ **Telephony interfaces**
- ◆ **Dynamic conference building & allocation**
- ◆ **User definable router panel**
- ◆ **Full IP Gateway**
- ◆ **LAN/WAN connects multiple devices**



One of the characteristics of both VHF and UHF radio networks is the delay introduced between the PTT, push to talk signal and the transmit path being opened up. A similar situation exists when signals are received and the receive path being activated, COR. These delays will vary according to the type of radio employed.. Trilogy incorporates audio delays on send and receive paths which are fully adjustable via the software configuration editor. These enable the signalisation delays to be compensated for and prevent the all important first word (s) of a transmission being lost.

At the dispatchers desk, a 16 lever key rackmount panel with gooseneck microphone and loud-speaker provides access either to individual radios (Speak and /or listen) or to groups of radios. These groups may be dynamically assembled or deleted using a soft router panel which can be a touchscreen or mouse driven facility, This is a very powerful tool which enables group calls or conferences to be assembled and varied minute by minute as the incident unfolds. Panels can also be provided in other locations connected over shared or dedicated IP networks. In this trial, a panel was made available to be in Lompoc, some distance north of Santa Barbara but linked over the Sheriff Department's standard data network. A wide range of coding algorithms is provided (under software control) to make best use of bandwidth available. An additional feature is the ability to use IP satellite circuits which, in turn, can provide an alternative connection to mobile vehicles or any remote command centres.



Screenshot of router panel



16 key dispatcher panel - (Other formats available)

Equipment list		
Mercury system	Part no.	Third party
Mercury Interface unit	700-25-00	UHF radios
Radio Interface board 8 ch	700-16-00	VHF radios
DSP expansion board	700-13-02	CB / Short wave radios
!6 key control panel	700-31-00	Antennae, Combiners
Configuration editor 4 host	700-75-05	
(Includes router panel s/w)		

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