

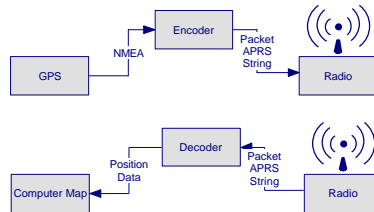
# Oh Brother, Where Art Thou?



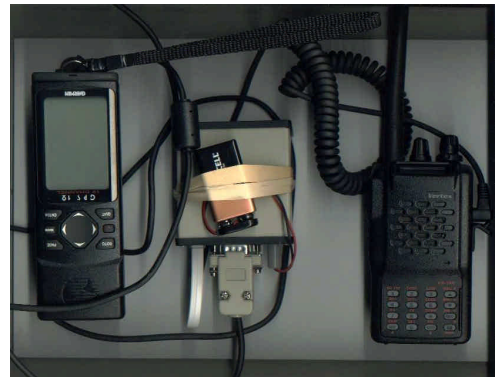
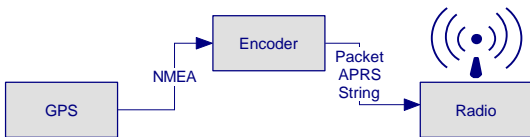
Jeff Lehman  
San Bernardino Cave Rescue Team

# Automatic Position Reporting System

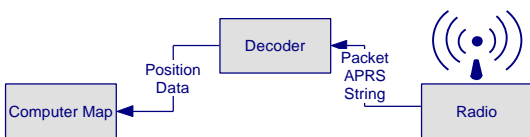
- Bob Bruninga, WB4APR
- Amateur packet radio (AX.25)



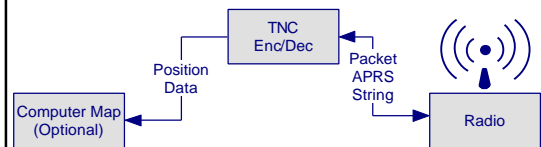
# SAR Team

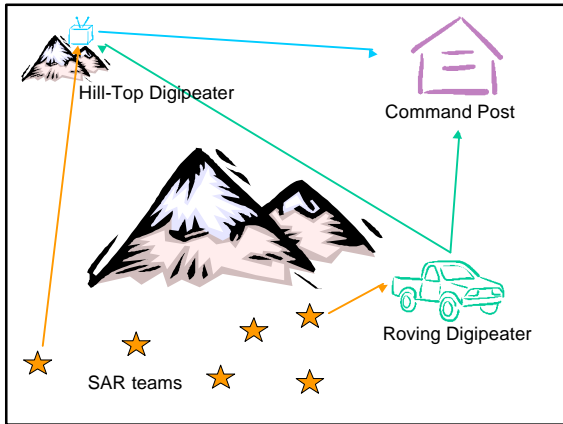


# Command Post



# Digipeater





## In-Field Tracker

- Weatherproof
- Lightweight
- "Rescuer Proof"
- Integrated is probably best
- Common power supply

The block diagram shows a GPS module connected to an Encoder via an NMEA line. The Encoder outputs a Packet APRS String to a Radio module, which is represented by a radio antenna icon.

## GPS

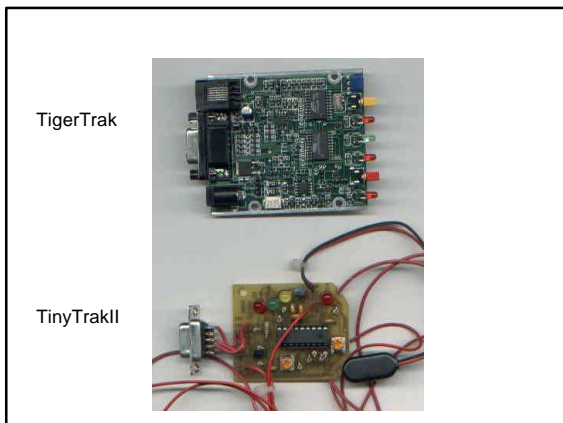
- Connect to a computer
- NMEA out
- Battery life

The block diagram shows a GPS module connected to an Encoder via an NMEA line. The Encoder outputs a Packet APRS String to a Radio module, which is represented by a radio antenna icon.

## Encoder

- Size/Weight
- Power supply
- Connectors
- Proximity to radio
- Few external controls

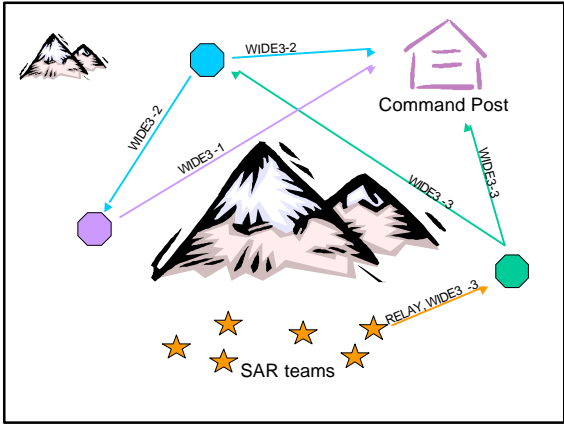
The block diagram shows a GPS module connected to an Encoder via an NMEA line. The Encoder outputs a Packet APRS String to a Radio module, which is represented by a radio antenna icon.



## Encoder Configuration

The screenshot shows the configuration window for the TigerTrak TM-1. Key settings are highlighted with red boxes:

- Profile #1 Settings:** Path 1 is set to RELAY, Path 2 to WIDE3-3, Path 3 to WIDE3-3, and Path 4 to WIDE3-3.
- Options:** Lights Off, Mic Encode, and Mode Lock are checked.
- Transmission:** Transmit Delay is set to 300 ms and Tail Delay to 50 ms.
- Special Paths:** Path 1 is WIDE2-2, Path 2 is WIDE3-3, and Path 3 is SARDIG.



## Command Post

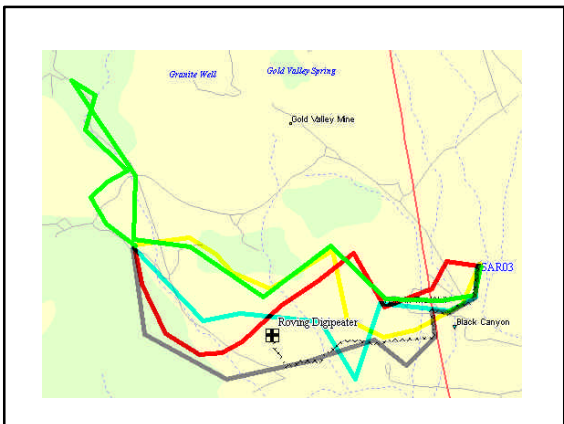
- Plug and play
- Easy to use
- Dedicated system

## Decoder

- Power supply
- Stability
- Compatibility

## Software

- Topographical
- Datum and coordinate system conversion
- Filtering
- Multiple station tracking



## Digipeater

- Power supply
- Few external controls
- Smart digipeating
- Remote control
- Portable
- PDA for computer (optional)

## Future

- Integrated packaging and power supply
- Mic-E vs. beacon
- Licensed comm/gov frequency
- Building infrastructure

## Many Thanks

- Mountain Rescue Association
- San Bernardino County Sheriff's Cave Rescue Team (K6BAT)
- Tad Gallistel (KG6ANQ)
- Mark Kern (KE6QXF)
- Mark Kinsey (KG6JZX)

## Info

- **Materials:**  
[www.sbsar.org/aprs](http://www.sbsar.org/aprs)
- **Contact:**  
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[jlehman@caverescue.net](mailto:jlehman@caverescue.net)