

## **The Role of an Amateur Radio Operator in a Disaster**

## **Faculty**

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## **Agenda**

- **What is Amateur (HAM) Radio?**
- **Amateur Radio Emergency Service**
- **Alabama Hospital Program**
- **American Radio Relay League**

## **Amateur/HAM Radio**

- **Original wireless communications**
- **Experimentation**
- **Technology**
- **Innovation**
- **Passionate hobby**
- **Competition**
- **Multiple Modes/frequencies**

## **Amateur/HAM Radio**

- **Public Service**
- **680,000 licensed Amateurs in US**
- **2.5 mil worldwide, 10,665 Alabama**

## **What Do Amateur Radio Operators Do?**

- **On The AIR**
  - **Chat**
    - **Technical subjects**
    - **Various subjects**
  - **Compete**
    - **Collecting countries**
  - **Domestic and international competitions**

### **What Do Amateur Radio Operators Do?**

- Experiment
  - Electronic experimentation, enhance station effectiveness, advance the radio art
  - Natural tendency, “technical” engineers

### **What Do Amateur Radio Operators Do?**

- Participate in Public Service Activities
  - Foot races, bicycle races, car races, Special Olympics
  - Emergency drills, Exercises
  - Weather-related preparations and events
  - Disaster Communications

### **Amateur Radio**

- Code of Federal Regulations Title 47 Part 97
- Amateur Radio Regulations (Excerpt)
  - a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications

### **Amateur Radio**

- b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art
- c) Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communications and technical phases of the art

### **Amateur Radio**

- d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts
- e) Continuation and extension of the amateur's unique ability to enhance international goodwill

### **Amateur Radio**

- “The rules and regulations in this Part are designed to provide an amateur radio service having a fundamental purpose and principles in Public Service”
- Message: FCC Charter acknowledges both hobby and Public Service components...a wise decision made many years ago!

## Typical Home Station Local, Regional, Global



## Public Service Emergency Communications

- **Filling The Communications Gap**
  - Hams, with mobile or portable equipment, will be deployed (upon request) to served agencies where normal communications have been, or are expected to be, lost
  - These Amateurs will attempt to provide communications as requested by the served agency

## What ARES Brings to Public Service

- **Broad range of Communications skills**
- **Operability / Interoperability**
- **Experience and Technical skills**
- **De-centralized, NO Limits Communications**
- **Independence from infrastructure**

## What is Unique about Ham Radio? Why is it a Valuable Public Service Resource?

- **Reliability**
  - Amateur Radio Operator = Communicator + Technician
  - Independence from infrastructure

## What is Unique about Ham Radio? Why is it a Valuable Public Service Resource?

- **Operability / Interoperability**
  - Modern Amateur equipment uses current technology but is compatible with classic equipment as much as 50 years old
  - Amateur Radio operators can operate ANY radio

### What is Unique about Ham Radio? Why is it a Valuable Public Service Resource?

- **Versatility**
  - Large volunteer population, de-centralized, trained, experienced
  - Amateurs can communicate on local, regional, national and international frequencies

### What is Unique about Ham Radio? Why is it a Valuable Public Service Resource?

- **Versatility**
  - Amateurs can use voice, Morse code and several digital modes including radio links to internet portals

### ARRL ARES Program

- **Field Structure**
- **National Manager**
- **Training Programs**
- **Equipment and support**
- **Exercises / Drills / Practice**
- **MOU / SOU with Served Agencies**

### ARES Communications

<b>Before</b>	
Storm Spotting	mobility, numbers
Shelter Preparations	portability
Extra Communicators	portability
<b>During</b>	
Weather Conditions	mobility, numbers
Damage Reports	mobility, numbers
Reliable Communications	infrastructure-independent
<b>After</b>	
Recovery Communications	infrastructure-independent
Reliable Communications	infrastructure-independent

### ARES

- This group has provided emergency communications services for everything from tornadoes, floods, shipwrecks, Hurricane Katrina to the disaster of 9-11
- This group provides (practices) communications at car races, bike races, foot races, Special Olympics, air shows, drills, and exercises

### ARES

- It is a specialized field requiring training and federal licensing



### ARES Supports

The image displays a collection of logos for organizations that support ARES. These include:
 

- FASTER BAND Emergency Network
- Department of Homeland Security
- NATIONAL WEATHER SERVICE
- EMERGENCY MANAGEMENT
- THE SALVATION ARMY
- FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
- Alabama EMA Emergency Management Agency
- DISASTER RELIEF ALABAMA
- MARS (Mobile Amateur Radio Service)
- ADPH (Alabama Department of Public Health)
- American Red Cross
- National Voluntary Organizations Active in Disaster (NVOAD)
- DCH (Health System)

### What Sorts of Disasters or Emergencies Have HAMs Been Involved In?

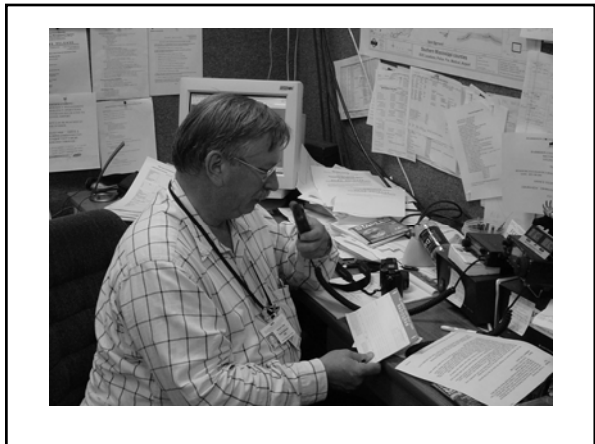
- International
  - Sri Lanka Tsunami
  - China earthquake
  - Haitian earthquake

### What Sorts of Disasters or Emergencies Have HAMs Been Involved In?

- Regional
  - WTC
  - Hurricanes Katrina, Rita, Dennis, Ivan, Wilma, Charlie...

### What Sorts of Disasters or Emergencies Have HAMs Been Involved In?

- Local
  - Weather emergency, SKYWARN
  - National Weather Service, Red Cross, EMA, tornadoes, flooding and more



### Alabama Hospital Program

- Alabama Hospital Association



### Alabama Hospital Program

- Federal grant for Ham radio stations in Alabama hospitals
- Radios installed in sixty hospitals to date
  - Common radios
    - Local
    - Statewide/worldwide
- Use existing ARES volunteers
  - Experienced, trained, dedicated

### Alabama Hospital Program

- ADPH leadership are now licensed amateurs
  - Building experience, training and knowledge

### Alabama Hospital Program

- Alabama hospitals Can NOW communicate
  - Locally
  - To Montgomery, ADPH, AlaHA, ALEMA
  - Across the state
  - Outside the state

### Alabama Hospital Program

- Amateur radios installed in ADPH communications vehicle
- Building Digital network
- Adding volunteers to ARES and Public Health

### Alabama Hospital Program

- Kenwood TS-2000 transceiver

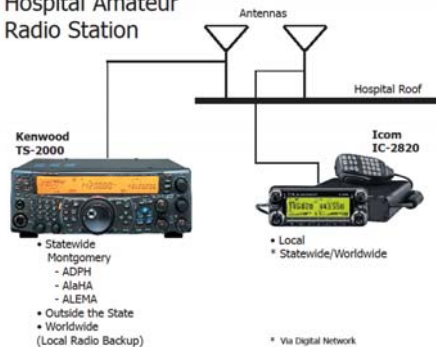


## Alabama Hospital Program

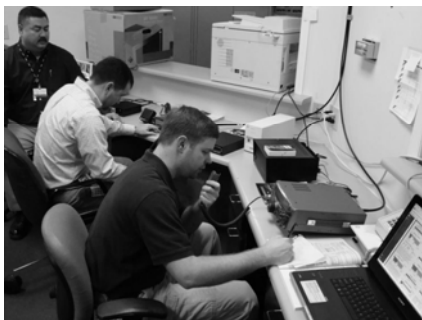
- Icom IC-2820 transceiver



### Hospital Amateur Radio Station



## Crestwood Medical Center Huntsville, AL



## American Radio Relay League



## American Radio Relay League

- ARRL established, May 1914 the National Association for Amateur Radio
- Represents Amateur Radio Service to regulatory bodies

## American Radio Relay League

- Promotes public service, contests, competition, provides technical advice and assistance to Amateur Radio enthusiasts and supports educational programs throughout the country
- Non-profit organization
- 156,000 members

## ARRL Five Pillars

### Public Service

### Advocacy

### Education

### Technology

### Membership

### Public Service

- Emergency Communications
- Training
- Radio Clubs
- Instructors and Examiners
- ARRL Field Organization

### Advocacy

- Spectrum Defense
- Interference Resolution
- Wireless Industry Cooperation
- FCC Rules Enforcement
- International Amateur Radio Union

### Education

- Books, videos and CDs
- Online training
- Recruitment, mentoring and licensing
- Ham Radio News
- Youth activities

### Technology

- Advancing the Radio Art
- Experimentation and Education
- Digital Communications
- The ARRL Laboratory– Technical Information Service
  - Trusted Product Reviews
  - Radio Spectrum and RF/EMC Engineering

### Membership

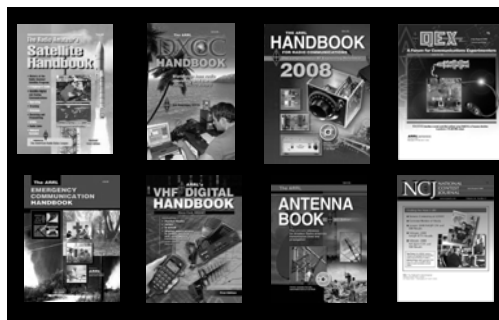
- QST Magazine
- Operating Awards and Contests
- Technical and Regulatory Information
- Equipment Insurance
- Find it all Online!



## American Radio Relay League

- Contests
- Hamfest
- Clubs
- Exercises
- Publications
- Youth
- Education
- Public Relations
- Radio Reviews
- W1AW
- Web Site
- FCC
- Membership
- Tech Lab

## American Radio Relay League



## American Radio Relay League



## ARRL Radio Station



## American Radio Relay League Contact

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## American Radio Relay League Contact

<http://www.arrl-al.org>

<http://www.arrl.org/>

**Questions**