Introduction to the

Amateur Radio Emergency Service (ARES)

WHEN ALL ELSE FAILS...
AMATEUR RADIO

146.550

Presented to
HacDC
Washington, DC

June 11, 2014

AMATEUR RADIO EMERGENCY SERVICE

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WHEN ALL ELSE FAILS...

AMATEUR RADIO

. . .STILL WORKS!

Amateur Radio Service

• The Communications Act of 1934 created the FCC and acknowledged "amateur" radio as a service (Part 97) that could fill the need for a pool of experts who could provide backup communications during emergencies.

• The FCC also acknowledged the ability of the hobby to advance radio technology and to enhance international goodwill.

• Amateur Radio operators are required to pass an FCC written exam in order to obtain a license.

Amateur Radio Service

• The FCC has assigned large portions of the radio spectrum for amateur use. In return, amateurs are expected to use these privileges to provide communications assistance to the public in times of need or distress.   *Use 'em or lose 'em!*

•Infinite number of frequencies. . .**NOT** channelized.

ARRL Overview

- The "**American Radio Relay League**" was founded in 1914.

- ARRL is the nation's largest amateur radio organization, with about 170,000 members and headquarters in Newington, CT.

- Approx 10,000 ARRL members in the MDC Section.

- Approx 700 Hams in the District

ARES Overview

• The **Amateur Radio Emergency Service** or "ARES" was established in 1935 as part of the ARRL field organization.

• ARES consists of licensed amateurs who have voluntarily registered their qualifications and equipment for communications duty in the public service when disaster strikes.

ARES Membership Requirements

- An FCC issued Amateur Radio License

- A desire to serve your community

- No age requirements!

"OK. . .how do I get the license?"

- Entry level is the Technician Class license

  - Full privileges above 50MHz; some on HF

- To pass, 27 out of 35 questions correctly

- Self-study, class-study or online-study

- Exams given by many area Amateur Radio Club Volunteer Examiners

"The License"

- Call sign within days of taking the exam

- Free!

- Good for 10 years; renewal is also free

- 2X3 call sign ex: <u>KB</u>3<u>KOW</u>, <u>WB</u>3<u>KAS</u>

- Vanity Call signs upon upgrade — optional

  - 1x3, 1X2, 2X2, 2X1

    - ex: <u>K</u>3<u>ERA</u>, <u>N</u>3<u>AE</u>, <u>AA</u>3<u>WS</u>, <u>AD</u>3<u>U</u>

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"OK. . .I have the license, now what?"

- The *Elmer* Program

- Training

- Practice

- Drills and exercises

- The above four!

"OK. . .what might I be asked to do?"

- A Served Agency might ask you to:

  - Set up comms in a ***relief shelter***

  - Shadow an official at an event

  - Send email over radio for a hospital

  - Track ARC assets from point A to point B

  - Work night shift comms

A Typical ARES Organization Structure

- ARRL County Emergency Coordinator

  - Assistant Emergency Coordinator – Net Operations

  - Assistant Emergency Coordinator – Health Care Coalition

  - Assistant Emergency Coordinator – Admin/Membership

  - Assistant Emergency Coordinator – Training Programs

  - Assistant Emergency Coordinator – Logistics Support

Typical ARES Public Service Events & Drills

Public Service

Marlborough Day – 2nd Sat in May

Bike MS Ride – 2nd Weekend June

National Night Out – 1st Tues in August

Get Ready PGC! September

Greenbelt Labor Day Parade

Marine Corps Marathon

Drills and Exercises

Quarterly Hospital Drills – 1st Tues ea Quarter

Region V Hospital Exercise – varies
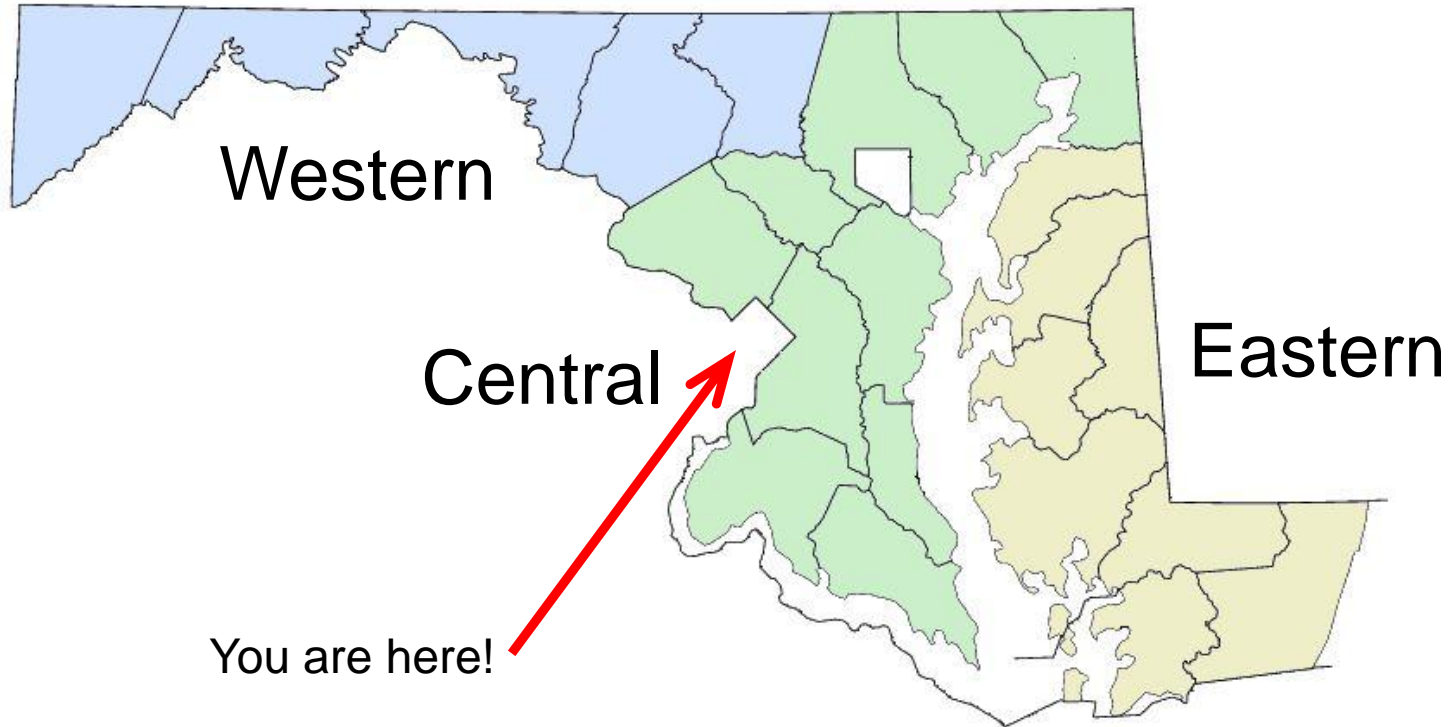
Annual Field Day – 4th Full Weekend in June

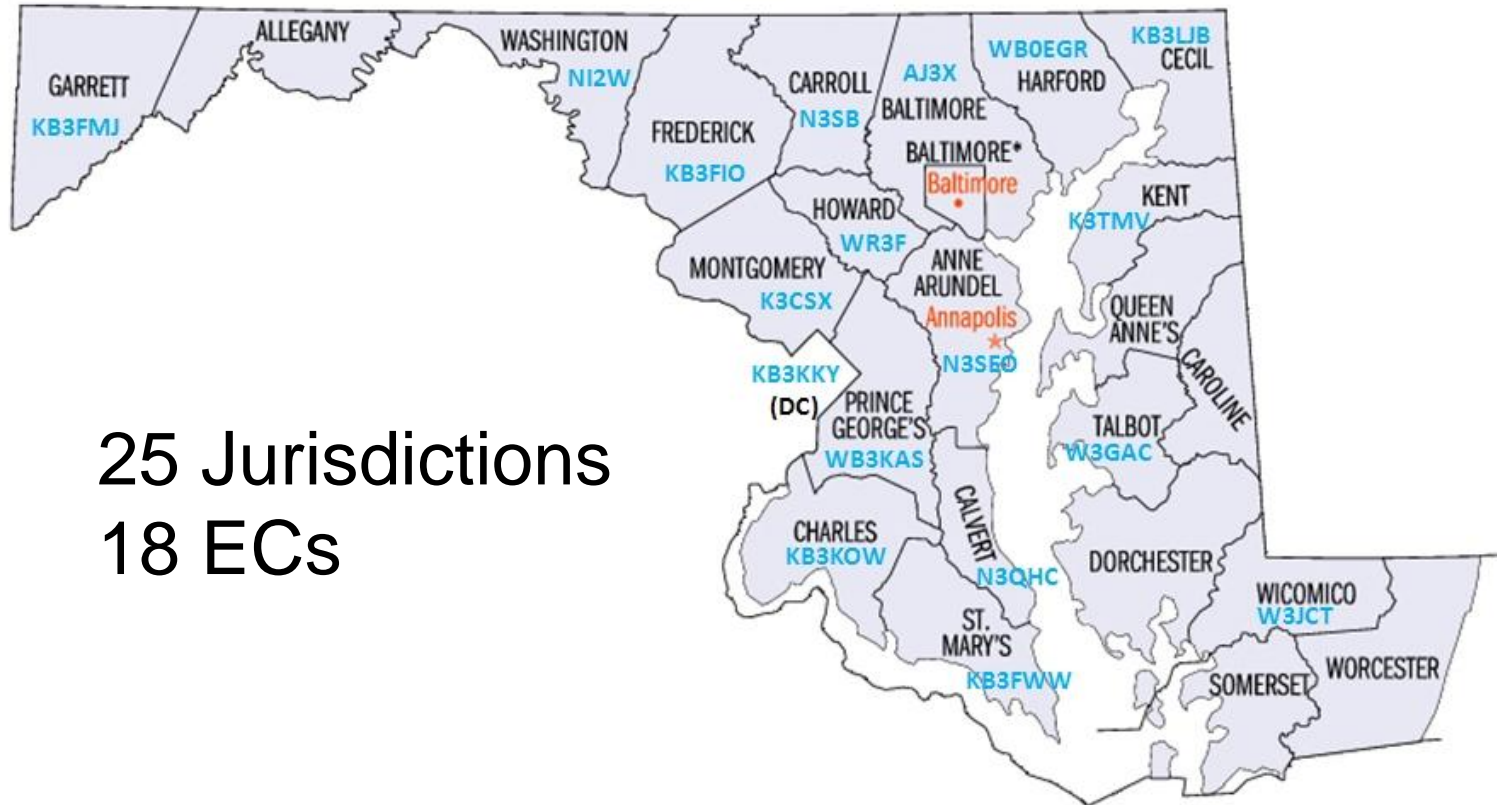Breakfast Deployment – March & August

Others as requested

MDC Section Divided into Three Divisions

Western

Central

Eastern

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Western

Central

Eastern

You are here!
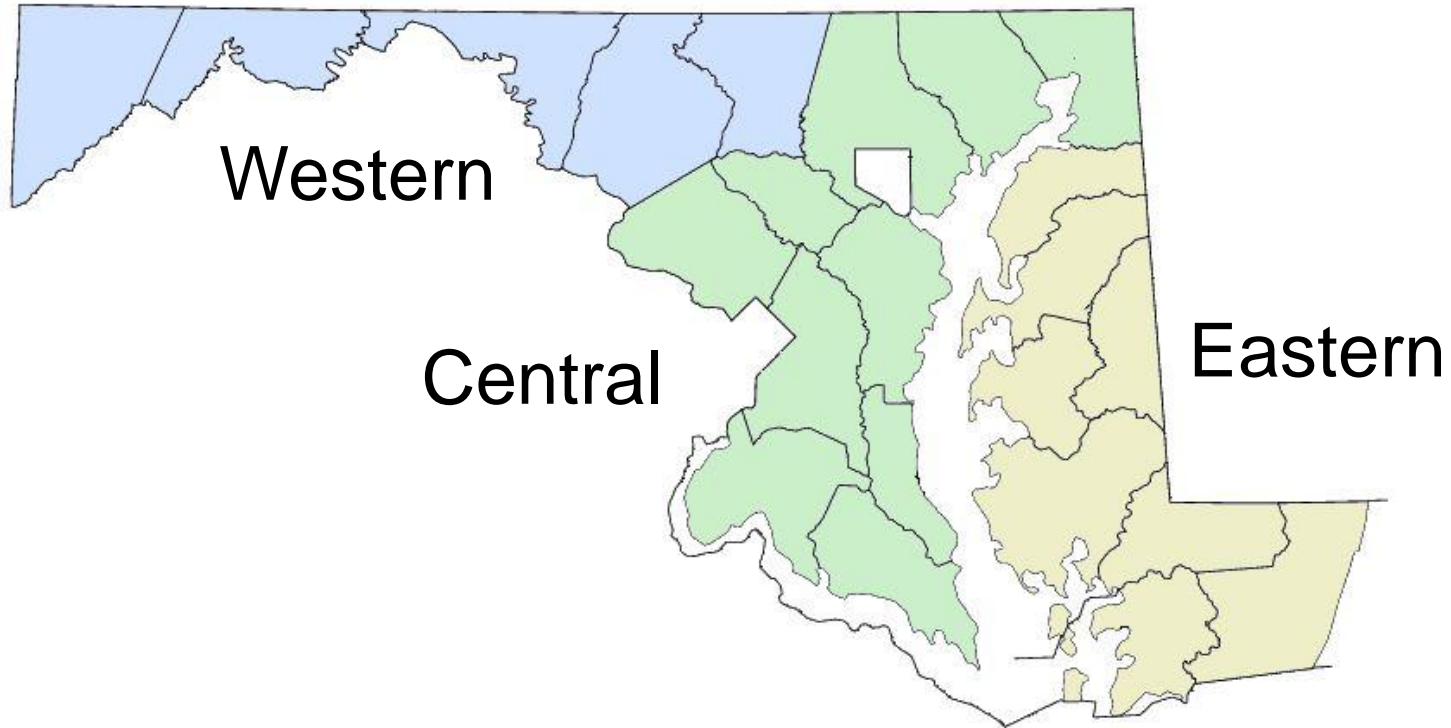
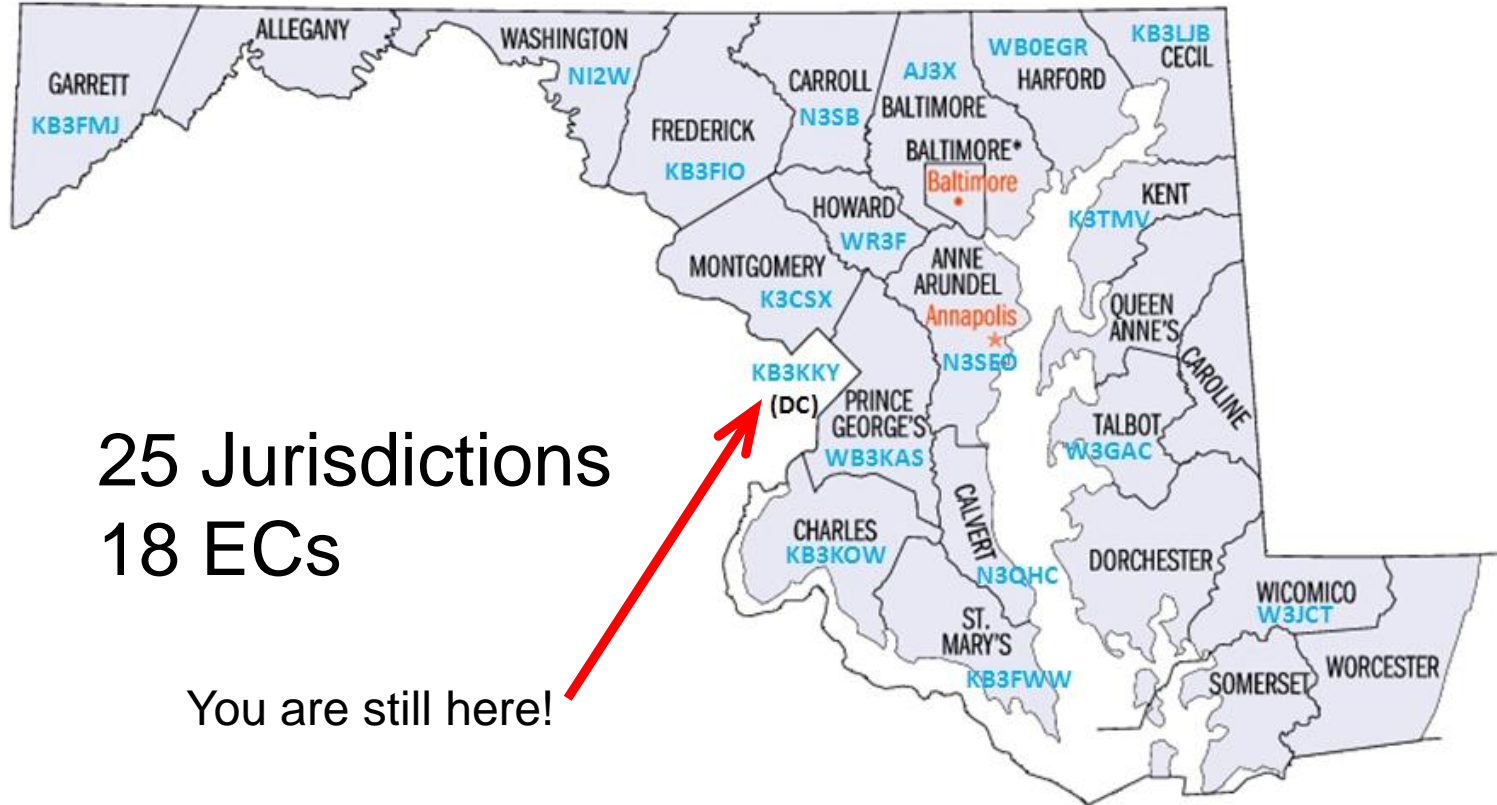# MDC ARES EmComm Network

25 Jurisdictions
18 ECs

MDC ARES EmComm Network

25 Jurisdictions
18 ECs

You are still here!

MDC Section Contacts

DC ARRL Emergency Coordinator
        Jack Gunther, KB3KKY – jackgunther@earthelink.net

PG County ARRL Emergency Coordinator:
    Jim Montgomery, WB3KAS – wb3kas@arrl.net

ARRL Section Traffic Manager:
    Al Nollmeyer, W3YVQ – w3yvq@arrl.net

ARRL Section Emergency Coordinator:
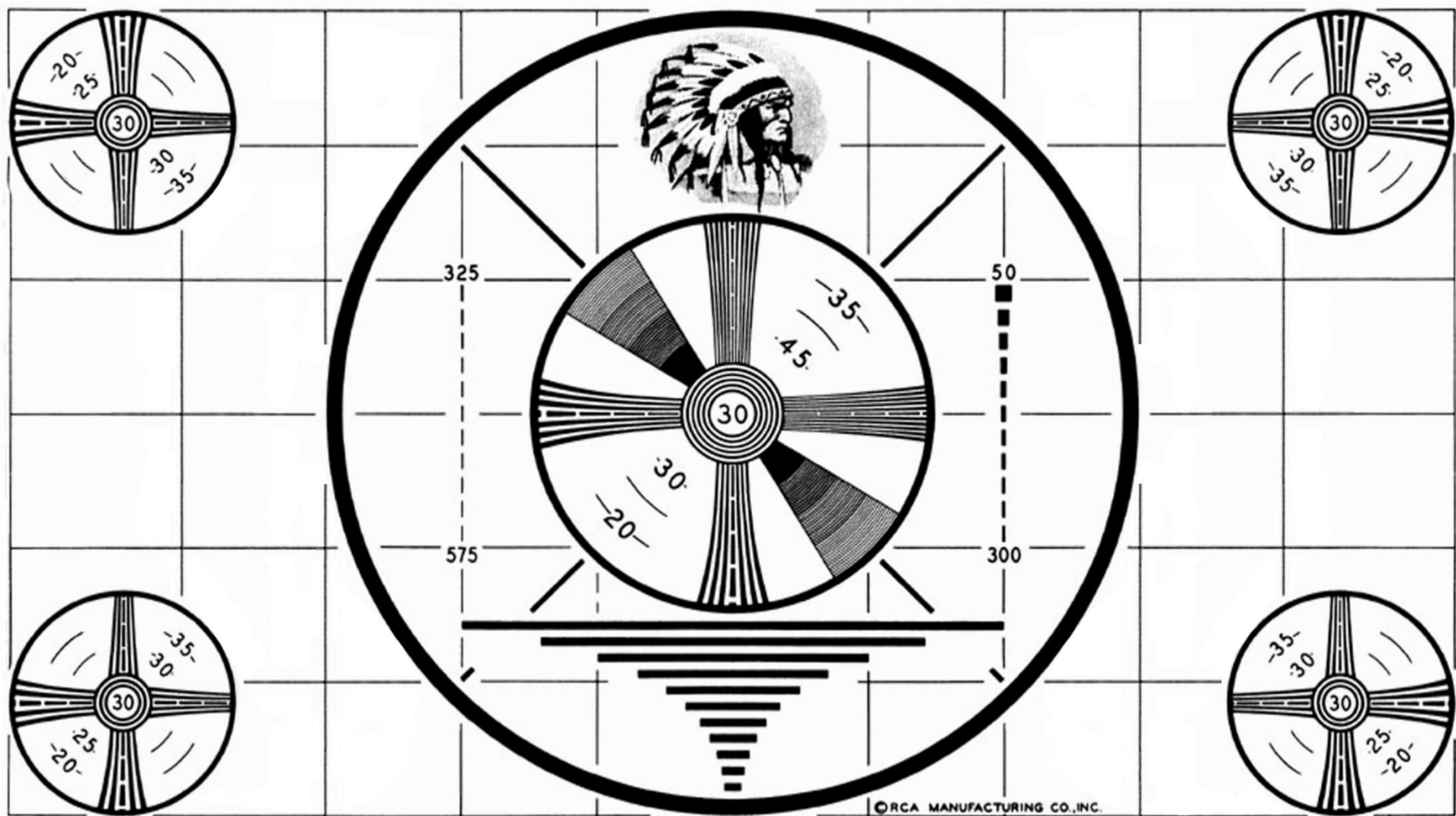   Jim Montgomery, WB3KAS – wb3kas@arrl.net

ARRL Section Manager:
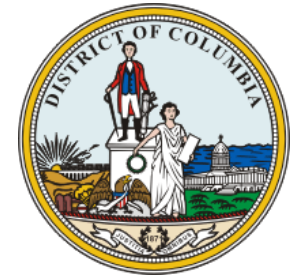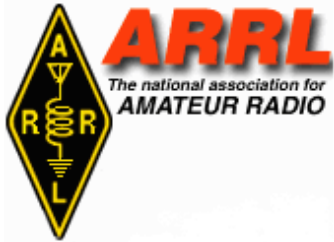   Jim Cross, WI3N – wi3n@arrl.org

Questions

?

EXTRA ADDED ATTRACTION TONIGHT. . .

Interoperability
and
Winlink 2000

Air FL 90 Crash
January 13, 1982

Interoperability

- Definition:

  "The ability of systems and organizations to work together to exchange information and to use the information that has been exchanged (inter-operate)."

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  *"The ability of **systems** and **organizations** to work together to **exchange information** and to use the information that has been exchanged (inter-operate)."*

Interoperability

Three important entities:

- ***Systems*** *and* **organizations**

- ***Exchanging the information***

- ***Using the information being exchanged***

So, What's the Issue?

- Interoperability is not necessarily an indicator of adequate operability.

- Operability, the ability for ARES members to communicate effectively with other ARES members and be dispatched efficiently during emergency operations.

- Interoperability refers to the ability of ARES to work seamlessly with served agencies supported by ARES.

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Communications Interoperability

- Serves as a <u>vital tool</u> for public safety and public service professionals (served agencies).

- To maximize such a capability, the MDC Section recognizes that a county ARES program must first be operable before it can be interoperable across and among agencies.

How Do You do This?

- Document the operable process.
  - Local ARES comms plan.
- Conduct drills and exercises with served agencies.
  - Have your ARES PR rep contact the equivalent in your served agencies.
  - Tell them you want to be on their team and not an after-thought.
- Identify short-comings, gaps, fix them and have another drill.

MDC – Section Limitations

- Lack of integrated training and exercise programs.
- Cross-county communications issues.
- ICS-205 outdated.
- Coverage gaps in many localities due to inadequate systems.
- Common digital mode – no agreements.

Interoperability Channels

- Nothing standard, but could use the following

- National FM Simplex Frequencies
  - 10m Band: 29.600MHz
  - 6m Band: 50.400MHz AM; 52.525MHz or 52.540 FM
  - 2m Band: 146.520MHz
  - 1 ¼ m Band: 223.500MHz
  - 70cm Band: 446.000MHz

What Needs to Be Done?

- From the interoperable communications vision, MDC Section will have:
    - People. . .right people
    - The right procedures
    - The right technology, and
    - The right training programs implemented
- to communicate anytime, anywhere, and with anyone.

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- to communicate anytime, anywhere, and with anyone. . ***Interoperability***

Our Mission

- MISSION: Our primary mission is to provide our agencies with the value-added services _they_ want. <u>They want "interoperability among all available services</u>."

- Never tell a served agency what you can do for them.

- Have them tell you what they want you to do for them.

Examples of Interoperability

- 18 Wheelers – AM Channel 'one nine'

- Boaters – FM Channel 'one six'

- Basic Telephone System

- Automotive Traffic Control System

- Cable and Network Television Systems

- Magnetic Swipe Readers

Amateur Radio EmComm and Interoperability

- Just as in the AirFLA-90 crash
  - Adjacent "ham" jurisdictions have favorite
    - Modes, frequencies, procedures
    - SSB, FM, CW, RTTY, PSK-31, MT-63, WL2K, etc.
    - The League does not sanction a 'favorite' mode
  - The EmComm message cannot and will not be transported
- Common Modes, Frequencies and Procedures is the answer
- Enter Winlink 2000

Summary

- ARES is alive and well across the Nation

- Local ARES Groups need help

- FCC Licensing is easy and affordable

- Join the DC ARES and support you local served agencies