Nationwide Emergency Alert System (EAS) Test Best Practices Guide Discussion: An Overview of the National EAS Message Process
12:30-1:30 PM (EDT)

Instructions

We are doing a brief audio check. You should be hearing sound through your computer at this time.

If not, please use the Feedback drop-down menu at the top right and change your color to blue. Amy Sebring or Avagene Moore will try to assist you via private message.

You must have the Live Meeting client installed for audio. The audio will not come through if you are using the Web interface.

You must have a sound card and speakers or headphones. Make sure your speakers/headphones are not muted or turned off on your computer.

Use the Voice & Video/Options/Set Up Audio and Video to check that your sound card is correctly identified. A copy of the Live Meeting instructions can be accessed by clicking on the handouts icon.

Computer microphones are disabled for this program.

Introduction

- **Participants**
  - Manny Centeno, EAS Test Program Manager, FEMA IPAWS
  - Kelly Williams, Senior Director, National Association of Broadcasters
  - Chris Brandt , Subject Matter Expert, Head-End Technician

- National EAS Test Date: November 9th, 2011 at 2PM EDT
  - **FEMA, the Federal Communications Commission (FCC), and National Oceanic and Atmospheric Administration's (NOAA) vision for improving the EAS is incremental, which means testing the readiness and effectiveness of the EAS as it currently exists today is the first step**

  - A more resilient and functional EAS requires continual testing to identify necessary improvements so that all levels of the system can better serve our communities and deliver critical information that will save lives and property

  - The nationwide EAS Test is not a pass or fail measure, nor will it specifically test Common Alerting Protocol (CAP) compliant equipment (although CAP compliant equipment should pass the Emergency Action Notification [EAN] live-code in the same manner as legacy EAS equipment)

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FEMA is currently in process of creating a comprehensive best practices guide

The best practice guide will include information and ideas proposed on the IdeaScale Website as well as the discussions in the virtual roundtables, and EAS Test Update webinar series

- Today's discussion will focus on the first draft of the guide
- Future virtual engagements include:
  - July 7th Nationwide EAS Test Update Webinar
    - Theme: National EAS Test Best Practice Guide Outline: An Overview of the National EAS Message Process
  - August 15th EAS Participant Virtual Roundtable
    - Theme: First Draft of the Best Practices Guide
  - September 1st Nationwide EAS Test Update Webinar
    - Theme: EAS Equipment Operation and Maintenance
  - September 30th EAS Participant Virtual Roundtable
    - Theme: Best Practices Guide Final Recap Discussion & Release
  - October 13th Nationwide EAS Test Update Webinar
    - Theme: Test Preparations and Procedures

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Today, we will focus on the following discussion topics:

- Message Origination

- Message Reception (EAS Network)

- Antenna

- Receiver/Tuner

- Overview of EAS Equipment Installation and Configuration (FIPS, Date, Time, Filters, etc.)

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Message Origination

- Although the Nationwide EAS Test will use an EAN and does not include State/Territorial and local message origination, the following considerations are important to note for the State/Territorial and local EAS:

  - Make sure that the message is clear, concise, and actionable

  - For the audio message portion of the EAS activation, ensure that the audio is clear, free of distortion and noise

  - As much as is possible, the audio should be broadcast quality and intelligible

  - It is essential to have well-exercised EAS operational plans to ensure continuity. These plans should be reassessed frequently (ex: when monitoring assignments are added/subtracted, which will impact the State EAS Plan)

  - EAS activations should be limited to tests and extreme emergencies

  - Close partnership between EAS Participants and all levels of government is essential and can include a variety of activities such as RMTs to accurately update State/Territorial EAS Plans
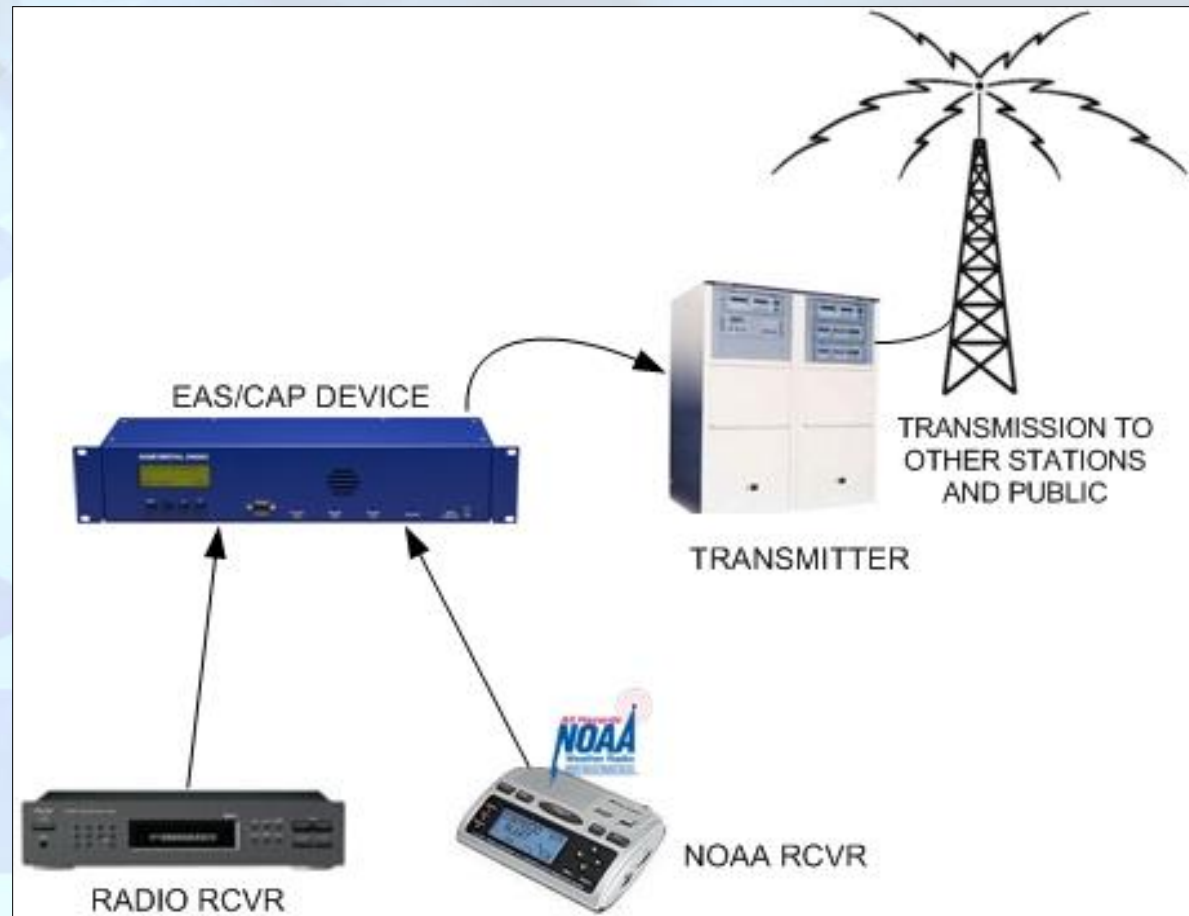
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Message Reception (EAS Network)

- Most National Primary (NP), also known as Primary Entry Point (PEP) sources for the EAS are AM stations
- AM stations offer specific coverage benefits due to the characteristics of ground wave propagation
- At night, after sunset, changes in the ionosphere permit for sky wave propagation, which allows the signals to reach much farther from the transmitting location

EAS/CAP DEVICE

TRANSMISSION TO OTHER STATIONS AND PUBLIC

TRANSMITTER

NOAA RCVR

RADIO RCVR

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Message Reception (EAS Network)

- AM reception, however, also introduces reception challenges

- These challenges include, noise, distortion, and interference

- FM signals are line of sight and cover smaller geographic areas than AM

- The band is not subject to most of the reception issues found in AM, however, FM band signals may also present challenges in some situations

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Message Reception (EAS Network)

It is important that EAS participants can receive a clear signal from their sources. This may be simple to achieve in locations where those sources are nearby

It can be significantly more challenging to receive these important EAS messages in remote locations, rural areas, and locations that are susceptible to interference from man-made sources, and other problems

Challenges to AM & FM Reception
- Weak signals
- Tuner/Receiver Selection
- Overloading
- Distorted Audio
- Terrain
- Interference
  - Atmospheric Interference and other challenges – Lightning, fading, reflection, refraction, etc.
  - Electric Noise Sources – light dimmers, fluorescent ballasts, overhead power lines (worn or defective insulators), computers and other digital processing equipment, monitors and displays, electric motors (compressors, blowers, fans, etc.)

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Message Reception (EAS Network)

AM/FM Antenna Best Practices

- Evaluate your signal acquisition needs and select a suitable antenna

- Whenever possible, make use of an exterior antenna for better performance

- For AM, a tuned whip or tuned loop antenna may prove useful

- For locations with high station density, a directional antenna may be preferable

- Observe proper grounding

- Use high-quality, low-loss coax to reduce signal loss and interference

Message Reception (EAS Network)

Receiver/Tuner Selection General Best Practices

- The use of a high-quality tuner or receiver is highly desirable

- Select a tuner/receiver with good sensitivity and selectivity

- Select a receiver/tuner with external antenna inputs

- Ensure that the receiver/tuner has appropriate audio output connections

Overview of EAS Equipment Installation and Configuration

EAS Device General Best Practices

- Conduct Required Weekly Tests (RWT) and Required Monthly Tests (RMT), as required

- These actions test the encoder and audio output of the EAS device to the air chain. These also check for contact closures/GPI interfaces, and serial outputs for text crawl, etc

- Ensure that the EAS device audio inputs and outputs are in working order

- Alert audio input circuitry could have been compromised unknowingly

- This is important if you do not receive regular alerts or tests (especially for LP-1 and other primaries). Check for proper grounding

- Ensure that your monitoring source (tuner/receiver, etc.) is feeding clear audio to the EAS device

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Overview of EAS Equipment Installation and Configuration

EAS Device General Best Practices

- Most EAS devices allow for monitoring through the devices' internal speaker

- Audio presence and quality can also be checked at the input terminals of the EAS device

- If your facility is a primary EAS participant (LP, SP, etc.), ask your alerting authorities to conduct coordinated tests (even if these are not placed on-air)

- Doing this exercises the decoder functions of your EAS device

- If your facility receives alerts from other EAS participant relays (radio, television, cable), as described in your State EAS Plan, ensure that you are receiving their RWT and RMTs (check the device's logs or print outs)

Overview of EAS Equipment Installation and Configuration

EAS Device General Best Practices

- If you are not receiving these test messages, alert your EAS source stations and check your receiver/tuner and other source devices

- If your receiver/tuner is working properly, contact your relay or activation source and let them know you are not receiving their RWT/RMTs

- Ensure the correct State and county FIPS Codes are programmed

- Ensure the station identifier (call sign) is programmed.

- Ensure that the appropriate Originator and Event Codes are programmed for forwarding/relay

- Check the EAS device for Automatic/Manual message relay setting. Set to your facility's desired action

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Overview of EAS Equipment Installation and Configuration

EAS Device General Best Practices

- Check auxiliary or other necessary external equipment, such as distribution amplifiers, audio switching equipment, text crawl generators for proper connections and operation

- Periodically check the operation of the device printer (if one is included) or log output to a PC

- It has been discovered that some devices reboot when alerts are received. Check power supplies for proper operation

- Check and adjust all audio levels to and from the device to minimize distortion and noise

Want to Contribute to the Best Practices Guide?

Please Visit:

https://nationaldialogue-emergencyalertsystem.ideascale.com/

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More Information on the Nationwide EAS Test is Available at the FEMA IPAWS website:

http://www.fema.gov/emergency/ipaws/eas_info.shtm

Contact Information

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