Civil Air Patrol



CAP Communications: HF Data System

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ONE CIVIL AIR PATROL, EXCELLING IN SERVICE TO OUR NATION AND OUR MEMBERS!

HF Data System

- **Background**
  - Data use driven by a new mission with an outside agency
  - Mission will involve CAP Operations nationwide
    - Aerial reconnaissance
    - Damage assessment
    - Light transport of critical DoD personnel/materials
  - Similar to legacy CARDA/SARDA mission
    - Continental Airborne Reconnaissance for Damage Assessment
    - State and Regional Disaster Airlift

HF Data System

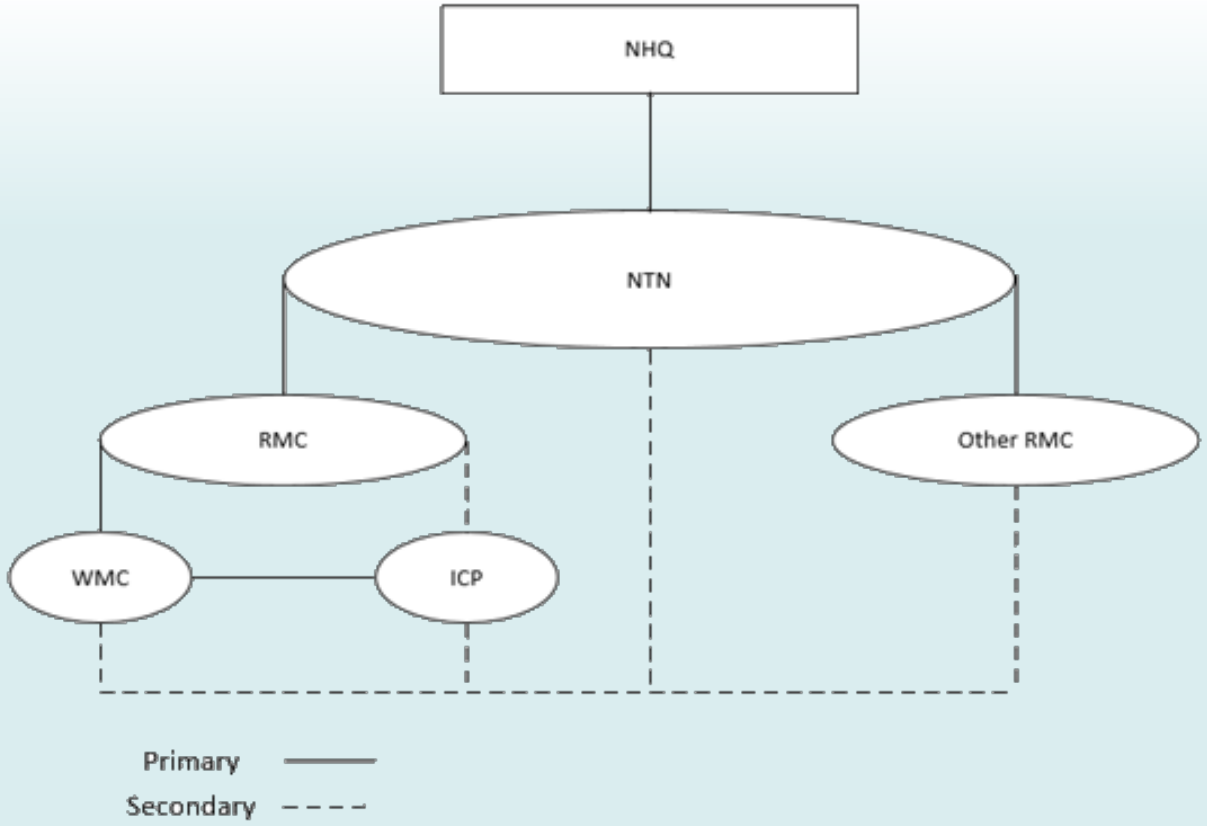
- **Overview**
  - Most information handled will be SBU (sensitive but unclassified)
  - Most CAP personnel will not require a security clearance
  - Record message traffic will be encrypted
    - All traffic will eventually be encrypted
  - An increased level of discretion and attention to OPSEC will be necessary
  - Wings and Regions should be developing radio paths to critical staff
    - The people that can task resources

HF Data System

- **Overview**
  - Emphasis - user friendly
    - some training still required
  - Increased emphasis on multiple delivery path options
  - Backbone station options
    - Higher power radios
    - Antenna options

HF Data System

- **Overview**



HF Data System

- **Equipment**
  - Radios
    - Existing Micom-3 HF radios
    - Future HF radios when implemented
  - Data Modems
    - Hardware Modems required
    - Software modem solutions will not be authorized
    - One approved waveform - MilStd 188-110 A/B



HF Data System

- **Data Terminal**
  - Dedicated data terminal with message editor and encryption software provided by NHQ
  - Minimal operator configuration capability
  - Data terminal - stand alone, air gaped system







HF Data System

- **Software Features**
  - Modem Interface & Control
  - Message Editor - Create & Edit
  - Message Processing
  - Point-to-Point “Chat” (keyboard-to-keyboard)
  - Address Book
  - Encryption
  - Expanded testing with NTN Stations
    - Process & Training development

HF Data System

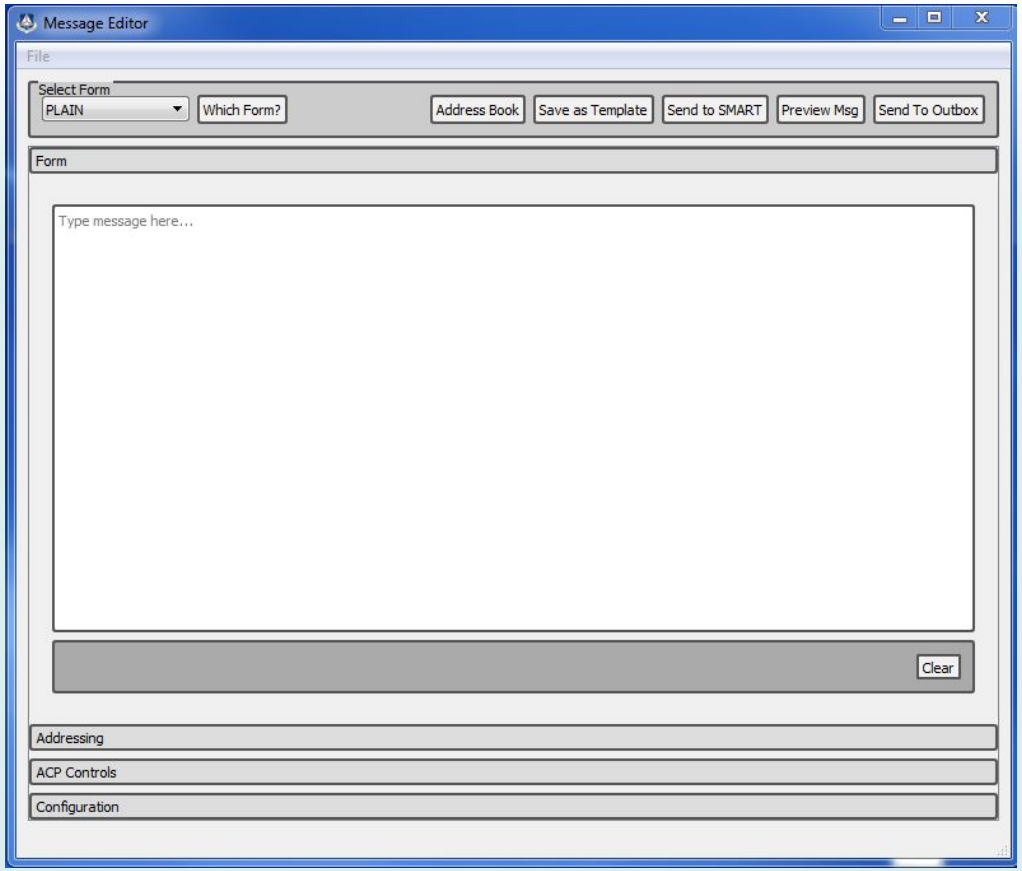
- **Software OPSEC**
  - Type III Encryption – Security clearance not required
    - Security procedures will be necessary
  - Additional OPSEC training will be required
  - Enhanced Non-Disclosure Agreement (NDA) will be required
  - OPSEC and NDA tracking to be added to OpsQuals

HF Data System

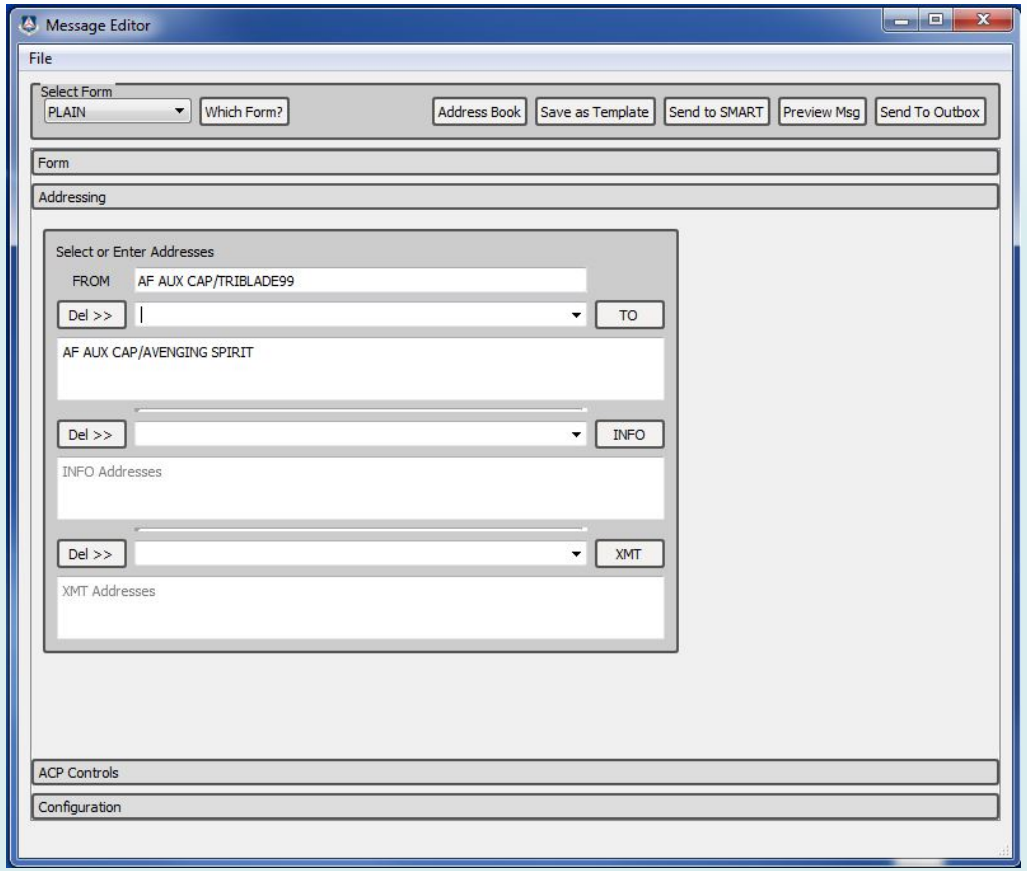
- **Software Message Editor**
  - ACP-126 & ACP-127 procedures
    - ACP-126 (Teletype – Digital Text)
    - ACP-127 (Message Forwarding)
  - Applicable USMTF message formats
  - Other forms as needs are determined

HF Data System

- **Software Message Editor**

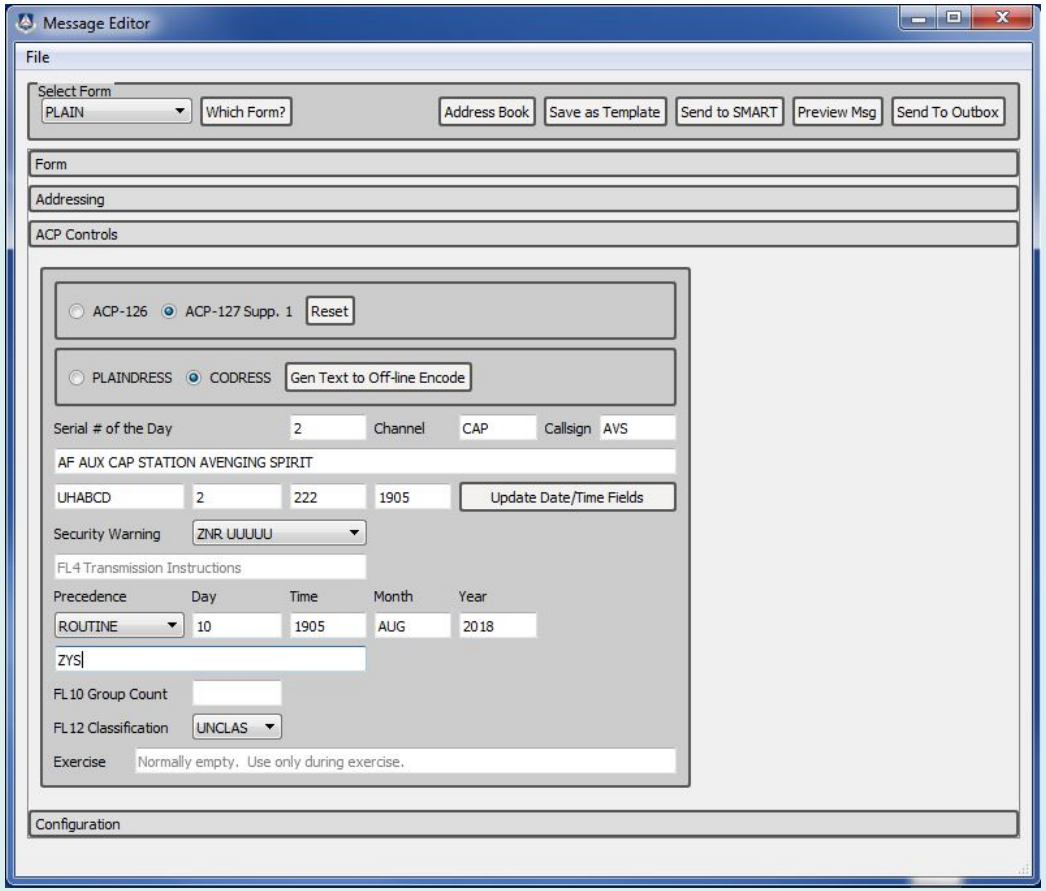


- **Software Message Editor**



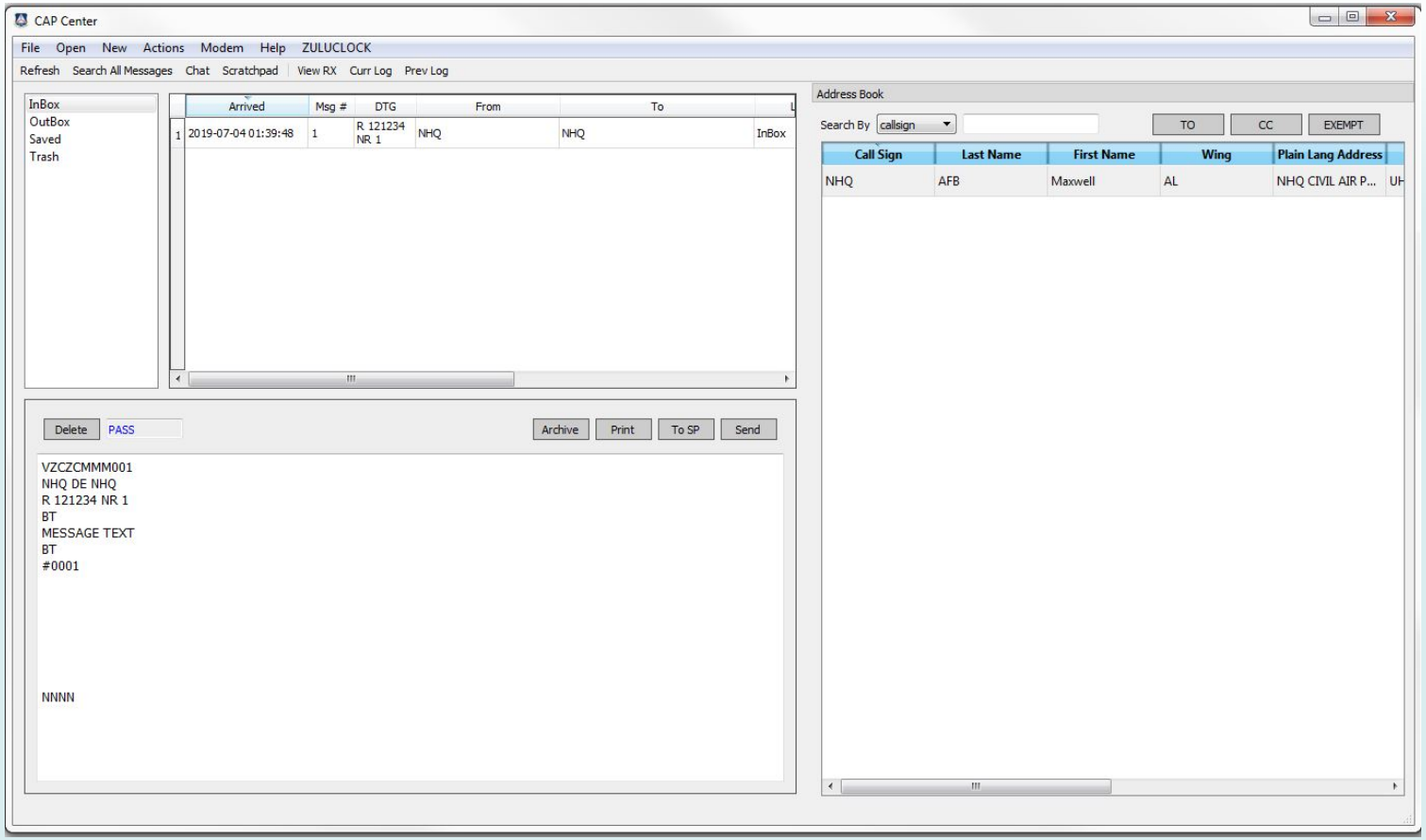
HF Data System

- **Software Message Editor**



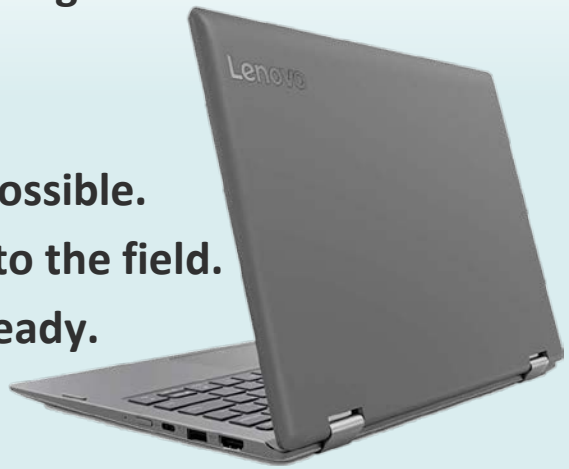
HF Data System

- **Software Message Editor**



HF Data System

- **HF Data Summary**
  - Mil Std modem and approved encryption to allow direct interop with outside agencies.
  - Required for the new Operations mission with outside agency.
  - First 290 laptops and HF data modems are at the NTC.
  - Software being customized for CAP to make the system as user-friendly as possible.
  - Working configuration details, network protocols, etc., prior to distribution to the field.
  - Triblade stations will be the beta test group starting as soon as software is ready.
  - Message center stations (wing/region) will be next. Hopefully late this year.
  - Eventually all CAP HF stations will have data capability.
  - Approved encryption requires annual OpSec training and NDA.
    - Will track in OpsQuals
  - AF is very interested in CAP HF support (data and voice).





HF Data System - Implementation

- **Implementation plan**
  - **Soon: Triblade stations as testbed**
  - **Late 2019-2020: Region then wing Message Centers**
  - **Next: RDPs**
  - **Long term goal: Every HF base station**







HF Data System

- **Wing/Region Preparation**
  - Develop Message Center Station team
  - Radio path to key personnel
  - Station improvements (antennas, etc.)
    - use approved, broadband (2-30 MHz) antennas
    - Grounding & Lightning protection
    - Help is available from DOKE
  - Continue operator training and improve performance
    - Practice and Build “Muscle Memory”


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