Radio Frequency Manager Submodule

# 1. Module Name & Description

This submodule supports radio frequency management through two key components:  
  
1. ICS 217 Frequency Repository – A structured database for managing all available radio frequencies, including mutual aid, command, tactical, air-ground, and public safety allocations.  
2. ICS 205 Frequency Allocation Builder – A planning and deployment tool used to assign frequencies to specific operational roles during an incident, resulting in an ICS 205 Communications Plan.  
  
The module streamlines planning, prevents interference, and facilitates clean integration into the Communications Unit's IAP responsibilities.

# 2. Primary Functions

- Maintain a centralized ICS 217 database of available frequencies  
- Allocate frequencies to specific uses in an ICS 205 plan  
- Deconflict overlapping assignments  
- Export ICS 205 forms for operational use  
- Import frequency lists or legacy ICS 205 plans  
- Provide a user interface for editing and assembling ICS 205 outputs

# 3. Submodules/Tools

- ICS 217 Frequency Manager – Create, edit, and store available frequencies  
- ICS 205 Builder – Assign frequencies by use (e.g., Command, Tactical, Air Ops, etc.)  
- Conflict Checker – Warns about duplicate or overlapping assignments  
- Form Import/Export Tool – Supports CSV and ICS 205 form integration  
- Assignment Tracker – Shows current usage and allocations across incidents

# 4. Key Data Models

Frequency217  
- alpha\_tag (PK)  
- function  
- freq\_rx  
- rx\_tone  
- freq\_tx  
- tx\_tone  
- system  
- mode  
- notes  
- line\_a (boolean)  
- line\_c (boolean)  
  
ICS205Assignment  
- id (PK)  
- incident\_id  
- frequency\_id (FK → Frequency217.alpha\_tag)  
- assignment\_label (e.g., Division A Command, Air-Ground 1)  
- usage\_type (Command, Tactical, Support, etc.)  
- remarks  
  
ImportLog  
- id (PK)  
- source\_type  
- timestamp  
- incident\_id (FK)

# 5. UI Components

- ICS 217 Frequency Table with edit/search/filter  
- ICS 205 Planning Grid with assignment inputs  
- Conflict Alert Strip  
- Frequency Picker Modal (draws from ICS 217)  
- ICS 205 Export Preview & Print View  
- Import Wizard (CSV, ICS 205)

# 6. API Endpoints

GET /api/217/ # List all ICS 217 frequencies  
POST /api/217/ # Add a new frequency  
PUT /api/217/{alpha\_tag}/ # Update frequency  
DELETE /api/217/{alpha\_tag}/ # Delete frequency  
  
GET /api/205/assignments/ # List assignments for ICS 205  
POST /api/205/assignments/ # Create assignment  
PUT /api/205/assignments/{id}/ # Update assignment  
DELETE /api/205/assignments/{id}/ # Remove assignment  
  
POST /api/import/ics205 # Import ICS 205  
POST /api/import/csv # Import frequency CSV  
GET /api/export/ics205 # Export ICS 205  
GET /api/conflicts/ # Check for assignment conflicts

# 7. Database Tables

frequency\_217  
- alpha\_tag (PK)  
- function  
- freq\_rx  
- rx\_tone  
- freq\_tx  
- tx\_tone  
- system  
- mode  
- notes  
- line\_a (boolean)  
- line\_c (boolean)  
  
ics205\_assignments  
- id (PK)  
- incident\_id (FK)  
- frequency\_id (FK → frequency\_217.alpha\_tag)  
- assignment\_label  
- usage\_type  
- remarks  
  
imports  
- id (PK)  
- source\_type  
- timestamp  
- incident\_id (FK)

# 8. Inter-Module Connections

- Communications Module – Core placement for this submodule  
- Planning Module – ICS 205 ties into overall IAP creation  
- ICS Forms Module – ICS 205 export handled here  
- Incident Module – Links ICS 205 assignments to specific incidents  
- Logistics Module – May link frequency assignments to specific radios or resources

# 9. Special Features/Notes

- Multiple ICS 205s may be created per incident (e.g., for operational periods or branches)  
- Line A / Line C boolean flags support FEMA/NIFOG compliance  
- Potential for future integration with mapping or repeater coverage visualization  
- Designed to support both single-agency and unified command scenarios