Programming Your Radio

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Decisions, Decisions

▶ Mobile or portable/HT?

▶ What type of radio am I programming (FM, D-STAR, Fusion, DMR, NXDN,P25)?

▶ Front panel programming versus programing software?

▶ How many memories do I need?

Mobile vs Portable Considerations

- How many memories do I need?
- Can I store and select different memory loads?
- How easy is it to change memories?
- How do I want to organize memories (banks, areas, bands)?
- Same memory order for portable and mobile

Front Panel vs Programming Software

- *You should always know how to program directly on the radio for fast changes and quick additions in the field*
- Initial setup is easiest with programming software
  - Requires programming cable
  - Software allows easy changes and additions
  - Easy to save multiple versions
  - Keeps backup copies
- Free and purchased programming software available

Basic Programming for FM

► What I need to know for programming

- Output frequency of repeater
- Duplex direction (+ or -)
- Offset (usually 600KHz for 2m/5 MHz for 70cm)
- Tone frequency (Hz)
- Tone on TX or tone squelch (TSQ)

Basic Programming for D-STAR

- ❑ What I need to know for programming
  - Output frequency of repeater
  - Duplex direction (+ or -)
  - Offset (usually 600KHz for 2m/5 MHz for 70cm)
  - ~~Tone frequency (Hz)~~
  - ~~Tone on TX or tone squelch (TSQ)~~
- ❑ Plus
  - My callsign
  - Local repeater callsign
  - Module (B for UHF, C for VHF)

OR

- ❑ Enter own callsign
- ❑ Turn on GPS
- ❑ Nearest Repeater

Basic Programming for Fusion

- ▶ What I need to know for programming
  - Output frequency of repeater
  - Duplex direction (+ or -)
  - Offset (usually 600KHz for 2m/5 MHz for 70cm)
  - Tone frequency (Hz) for FM
  - Tone on TX or tone squelch (TSQ) for FM
- ❑ Plus
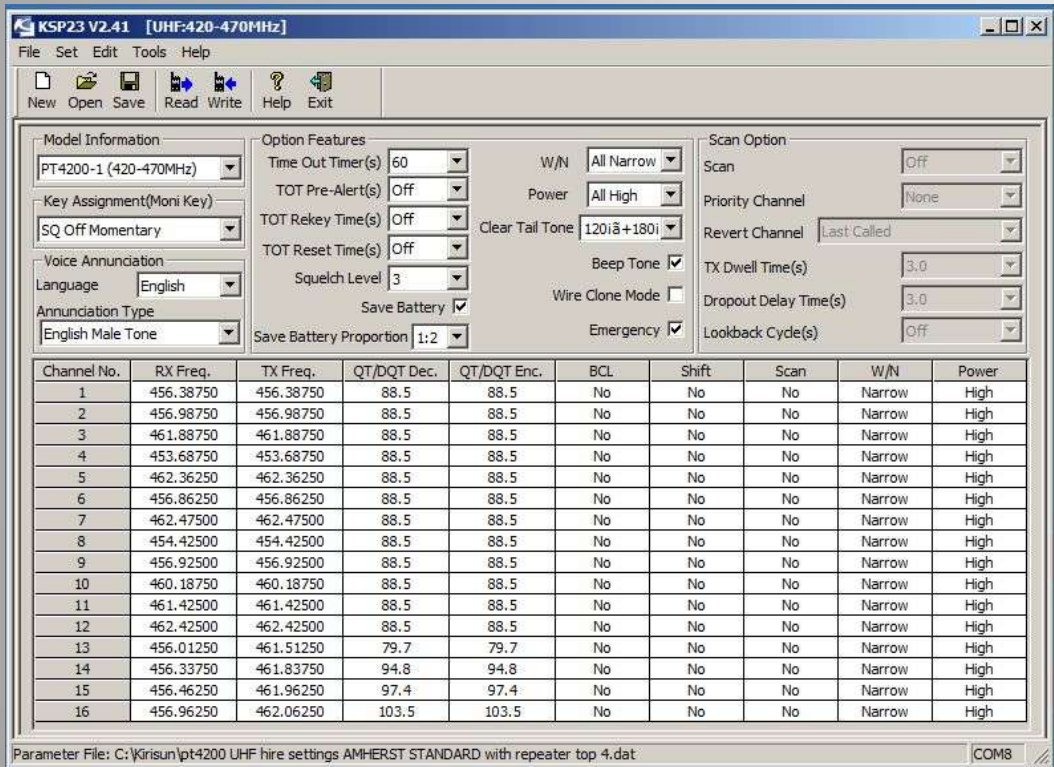 - Change mode to DN or DW (digital narrow or wide) for C4FM digital mode

Basic Programming for DMR

❑ What I need to know for programming

- Output frequency of repeater

- Duplex direction (+ or -)

- Offset (usually 600KHz for 2m/5 MHz for 70cm)

- ~~Tone frequency (Hz)~~

- ~~Tone on TX or tone squelch (TSQ)~~

❑ Plus

- Color code

- Talkgroup number by repeater

- Create Zone

Programming Software

- **Free software** (still need programming cable)
  - Chirp (available for most radios)
  - Some manufacturers (usually for specific models)
- **Purchased Software**
  - RT Systems
    - reasonably priced
    - allows easy copying from one radio to another
    - Sells programming cables