

# Central Ohio Radio Club Tech Net Presentation: New to Ham Radio

Anthony “Tony” Fabro

N8RRB

# Presentation Target Audience

- People studying to get license
- Newly licensed hams
- Hams out of the hobby a while and looking to reconnect

Assumption: operator will start on VHF/UHF

# Brief Introduction

- Licensed in 1992 as No-Code Tech
- My “Elmers”: Joe N5USR, Joe W8IEN/SK, Andy AB8ER/SK
- First radio interest: AM long distance listening (DX)
- Shortwave, scanner

# I Confess...

- I am not a “Techie!”
- I have never built a radio or other piece of radio equipment
- I have never built an antenna (by myself)

BUT...

- I am always learning, and willing to learn

# License Study Guides

Choose a study method that works best for you.

- Books: ARRL, Gordon West, etc.
- Online: web search provides lots of options
- In Person Classes

**Key point:** make sure the content of your study guide is for the current pool of exam questions

Check: <http://www.arrl.org/question-pools>

# Ham Radio License Test Sessions

- VE Test Sessions (Volunteer Examiner)
  - Hamfests: <https://arrrl-ohio.org/hamfests.html>
  - Club Meetings
  - Special Events
- Test session search: <http://www.arrrl.org/find-an-amateur-radio-license-exam-session>

# Building Your First Station

The complete station consists of:

- Radio
- Antenna
- Power Source

These components could be separate or integrated together.

# Getting Your First Radio



Photo Source: <http://www.universal-radio.com>



# Purchasing a Radio

Select a radio which fits your primary use for it.

- **Just want to get started: VHF/UHF Handie-Talkie (HT)**
- Weather Spotter: VHF/UHF mobile radio
- Public Service: VHF/UHF Handie-Talkie (HT) or mobile radio
- DX, worked all states, countries, grid squares, satellite: base all-mode radio (VHF/UHF or HF)
- Worked all states, worked all countries, DX: HF radio

# Other Radio Features

- Single Band vs. Dual Band (VHF/UHF)
- Analog vs. Digital (Hybrid)
- Manufacturers (branded vs. “knock-offs”)

# Additional Radio Considerations

- Cost
- Size
- Portability
- Ruggedness
- Power Output
- Sensitivity

# Handie-Talkie (HT)

- A complete station in your hand!
- Cost: \$100-\$300
- Very portable – can take it anywhere
- Ruggedness varies by model and maker
- Power ranges: 0.1 – 5 watts
- Stock antenna is usually not very effective



# Mobile Radio



- More permanent but still portable
- Cost: \$150-\$750
- Install in vehicle or as part of a base station
- Overall very rugged
- Power ranges: 5 - 75 watts
- Must supply antenna and power source

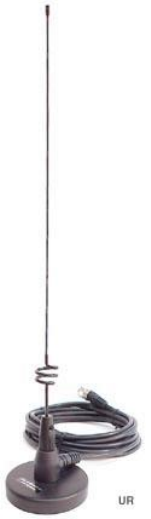
# Base Station Radio

- “Serious” Ham Operator
- Cost: \$500-\$5000+
- Usually for base station installation
- Ruggedness varies by intended use
- Power ranges: 1 - 200 watts
- Must supply antenna and power source



# Antennas

- Used to radiate radio frequency (RF) power from the radio
- Designs range from the very simple to the very complex
- HTs: Antenna comes with radio
- Buy one or build your own!
- <https://www.w6nbc.com/> - Tracks 3 & 4 have lots of articles for building your own



# Antenna Options - HT

- Comes with a “rubber duck” antenna
- Usually not an effective radiator
- HT “rubber duck” antenna alternatives:
  - ¼ wave whip antenna
  - J Pole
  - Magnetic mount antenna on a metal object

**Tip 1:** Do yourself a favor and spend the extra money on better HT antenna!

**Tip 2:** Do not use a HT as a mobile radio without an external antenna





# Antenna Options – Mobile Radio

## Vehicle

- Size:  $1/4$  to  $5/8$  wavelength
- Mount: permanent, magnetic, lip

## Base station

- Magnetic mount on metal object
- Base station antenna (outdoor or attic)
- Dipole (outdoor or attic)



# Antenna Options – Base Radio

- Magnetic mount on metal object
- Base station antenna (outdoor or attic)
- Dipole (outdoor or attic)

## Additional considerations:

- Feedline: longer run/higher frequency = more signal loss
- Grounding



# Power Source



- Batteries
  - HT: comes with battery, aftermarket options available
  - Mobile: wire directly to car battery if possible
- Power Supplies: mobile/base station
- Alternative Sources: solar, battery backup
- **Tip 1:** Buy extra batteries (and charge them) to always be “on the air”
- **Tip 2:** Do not completely discharge car batteries
- **Tip 3:** Do not use car battery as standby backup battery



# Operating Procedures

- Listen before you transmit
- Familiarize yourself with standard protocol
- A single thought per transmission
- Leave space between transmissions
- What is being said can be heard by many

# License and Radio In Hand – Now What?

- Get Involved!
  - Clubs: repeater, general interest, special interest, ARES
  - Events: Field Day, Simulated Emergency Test, Central Ohio Radio Club (CORC) World Famous Potlucks

Support the organizations who sponsor the repeaters you most frequently use!

# Links

- <http://www.corc.us/>
- <https://arri-ohio.org/>
- <http://www.arri.org/home>
- <https://www.universal-radio.com/index.html>
- <http://ac6v.com/clearam.php> - Clear channel AM station web page
- <https://radio-locator.com/> - find a commercial station

# Questions?

[technet@corc.us](mailto:technet@corc.us)

Thank you!