

# Technician Licensing Class Introduction

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***Special thanks to K3DIO***

***The Plano Amateur Radio Klub (TX)***

***Some of this material comes from them***



# Background: About WS6Z

- Davis, CA CERT member
- Yolo ARES AEC
- M.S. In Electrical Engineering
- Geek

# End-of-the-class Goals:

- Learn about ham radio
  - What it is
  - Why you might want a licence
- Have the knowledge to take the test
  - (you'll need to study some too)
- Have study sheets for memorization
- Know what to do next
- Please ask questions at any point!
  - (but I may say “the answer is coming”)

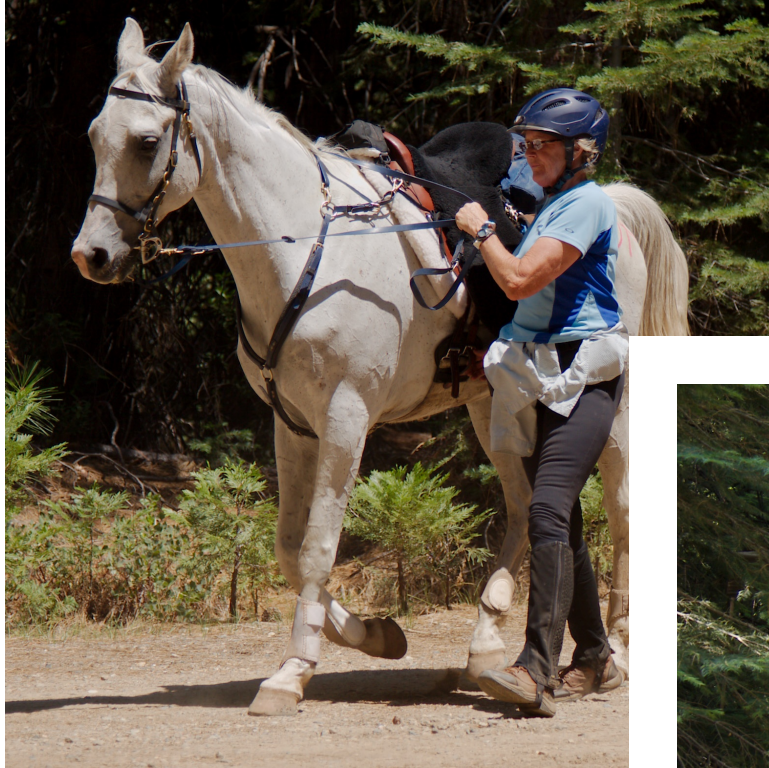
# Class Format

- The test questions are “grouped”
- Many classes teach to the questions
  - But the question ordering is bad
  - The questions aren't worded for learning
- This class teaches understanding
  - Not answering the questions directly
  - Some words are **bold** to indicate “on test”
  - Some words are in *italics* to indicate not
  - Almost every concept presented today is in some question or another!

# About Amateur Radio

- Ham Radio = Amateur Radio
  - “Persons who are interested in radio technique solely with a personal aim and without pecuniary interest”
- Find interests
  - Electronics
  - Antenna building
  - Contests
    - **Contact as many people as you can!**
    - Very quick chat: **send minimum information**
  - Just talking to people around the world!

# Emergency and Support Comms





# When phones don't work!



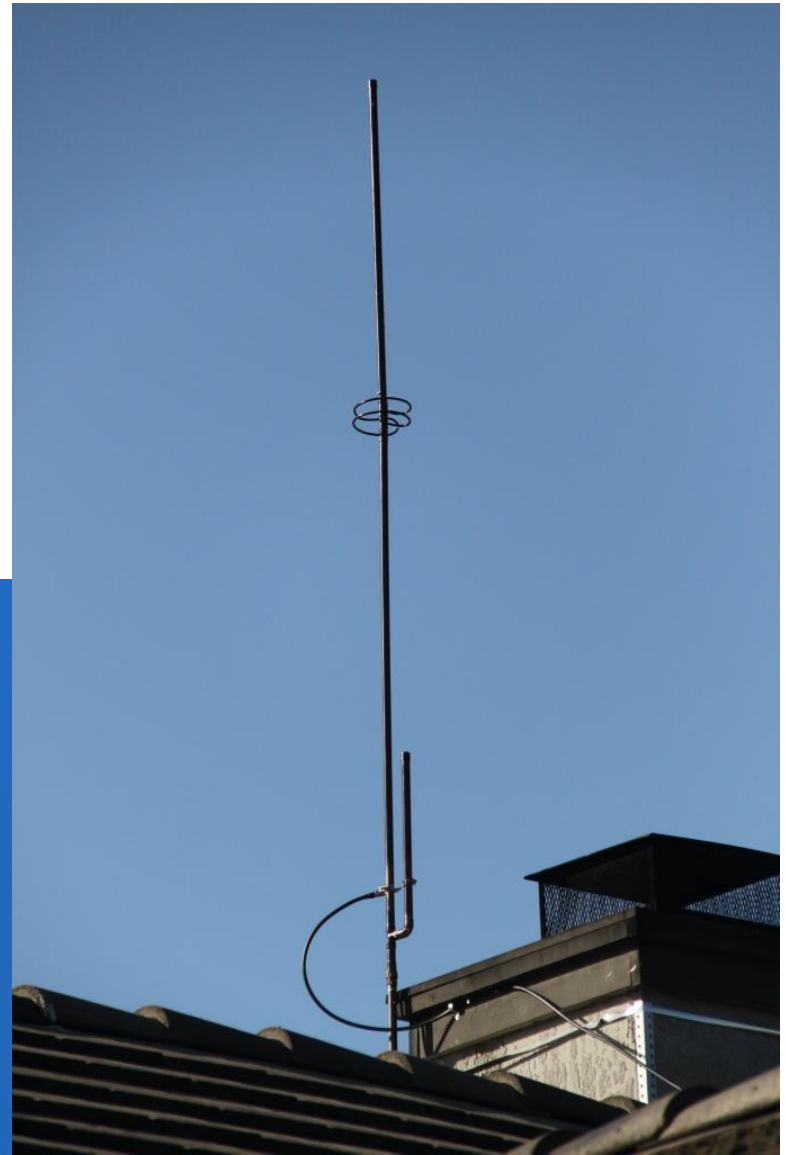


# Contests





# Antennas



# Amateur Radio “Levels”

- The U.S. has three levels
  - Technician Class: Easy!
  - General Class: Hard!
  - Extra Class: Super hard!

# Test Background: Technicians

- 396 questions in the Technician “pool”
  - You'll be asked 35 multiple-choice (A-D)
  - Need 75% correct to pass
  - These questions will change July 2014
    - 426 questions in the new pool
  - All the questions are available!
- 2014 Fee is \$15
  - Gives you a license for 10 years!
- Can usually try again the same day
  - Sometimes must pay another fee



# Example Question: T1C08

What is the normal term for an FCC-issued primary station/operator license grant?

- A. Five years
- B. Life
- C. Ten years
- D. Twenty years

# Example Question: T1A05

What is the FCC Part 97 definition of a space station?

- A. Any multi-stage satellite
- B. An Earth satellite that carries one of more amateur operators
- C. An amateur station located less than 25 km above the Earth's surface
- D. An amateur station located more than 50 km above the Earth's surface

*When you get stuck on the test: use logic; eliminate the unlikely first*

# Good News / Bad News

- Good News!

- Nearly everyone passes the Tech exam
- Get a copy of the questions/answers
- Many of the questions are common sense
- Many are easy if you know the theories
- Tons of resources online
- Tons of places to take the test
- It's still fun!



# Good News / Bad News

- Bad News...
  - It's quite technical
    - Lots of basic electronics
    - A fair amount of math
  - You need to memorize some answers

# Test Sections – Their organization

- T1 – FCC Rules, definitions, and license responsibilities**
- T2 – Operating Procedures**
- T3 – Radio wave characteristics**
- T4 – Amateur radio practices and station setup**
- T5 – Electrical principals and math**
- T6 – Electrical components, diagrams, functions**
- T7 – Station equipment, common problems, antennas**
- T8 – Modulation modes, satellites, activities, non-voice**
- T9 – Antennas and feedlines**
- T0 – AC power circuits, antenna installation, RF hazards**

# This Class's Overload

- How-To: operate and use a HAM Radio
- Rules you must follow
- Electronics and Antenna Theory
- Safety
- Communication Modes
- Special Operation
- Next Steps!



# Questions So Far?

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(if not, buckle up!)