Amateur Radio License Study Tips

“The secret of getting ahead is getting started”

Mark Twain

Who am I?

- Mike Drennan (KO6IYK)
  - Retired software engineer
  - Passed Tech and General in 2025 (not the same day)
  - Currently studying for Extra

Agenda

- Licensing – why do I need it?
- Study Methods
- Taking the Test
- References
- Questions

Licensing

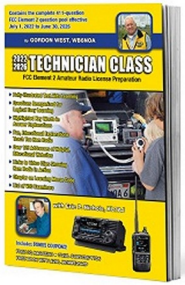
- Do I need a license?
  - To listen? No.
  - To legally transmit on amateur bands? Yes.
    - Unlicensed operation is a violation of federal law
- Fines from the FCC are rare – but can happen
  - Unlicensed operation - fines start at $10K
  - Repeated or egregious offenses – up to $149K

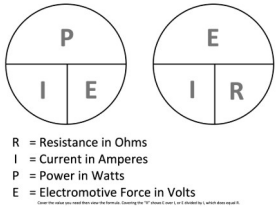
Study Methods

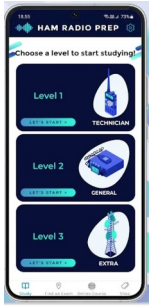
- Practice Exams
  - Use online simulators (hamstudy.org, QRZ, Ham Radio Prep)
- Understand, Don’t Just Memorize
  - The math isn’t hard – and you can use a calculator!
- Drill the Question Pool (flashcards, apps)
- Use Study Guides (Paper or E-books)
- Be Consistent - do a little every day

Study Methods

- Everyone learns their own way
  - Books
  - Videos (YouTube)
  - Quick References (Cheat Sheets)
  - Apps (PC and mobile)







Study Methods

- Technician Class Exam
  - Draws from a pool of 411 questions
  - The exam consists of 35 multiple-choice questions.
  - You must answer 74% of them to pass (26 out of 35).
  - The FCC updates the questions every 4 years.

- Make sure your book is current
  - Technician 2022-2026
  - General 2023-2027
  - Extra 2024-2028

Study Methods

- Choose study materials that include
  - Practice exams
  - The entire question pool and answers
  - Explanations of the answers
  - Illustrations
  - Progress tracking (if an app)

Study Methods

- Set a Deadline
  - Four weeks? Two months? It’s up to you
- Find a Club or study partner
- Reward Yourself
  - Each section completion is a milestone
- Focus on passing – not perfection
  - You only need 74% to pass (26 out of 35 questions)

Study Methods

- Study Tips
  - Take the practice tests – frequently
    - Take screen shots of missed questions for review later
  - When you consistently score 85% or better, you're ready for the test
    - Focus on getting this for each section before moving on
  - Remember
    - The wording of the actual test is the same as the practice tests
    - The order of the answers will be changed

Study Methods

- App Example
  - Ham Radio Prep (website and app)
    - Youtube channel recommended
    - App available for purchase

Ham Radio Prep

General License Course (2023 - 2027)

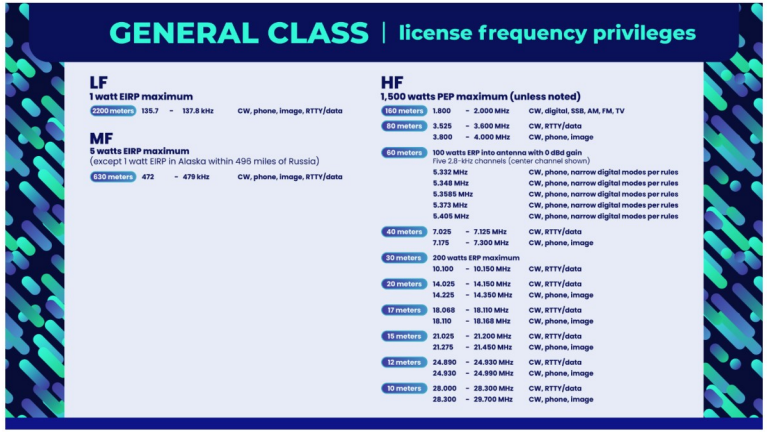
92% complete

Search by lesson title

General Band Plan Video

General Band Plan

As a General class ham radio operator, you receive new privileges. This gives you access to several ham radio bands and parts of bands you do not get to use as a Technician. Let's start with items related to the General class band plan. We'll do that by covering general topics first, then going band by band with specifics.



Ham Radio Prep

Capacitance, Inductance, & Reactance Quiz

Question 1 of 17

Which of the following components should be added to a capacitor to increase the capacitance?

- **A** | An inductor in series
- **B** | An inductor in parallel
- **C** | A capacitor in parallel
- **D** | A capacitor in series

CONFIRM

Ham Radio Prep

Capacitance, Inductance, & Reactance Quiz

Question 1 of 17

Which of the following components should be added to a capacitor to increase the capacitance?

- ○ **A** | An inductor in series
- ○ **B** | An inductor in parallel
- ● **C** | A capacitor in parallel
- ○ **D** | A capacitor in series

Correct!

To calculate the total capacitance of capacitors in parallel, you just add up the values of the individual capacitor values. Thus, to add to the total capacitance, you should just add another capacitor in parallel. Thus, a capacitor in parallel is a component that should be added to a capacitor to increase the capacitance.

NEXT QUESTION

Before the Test

- Register for an FCC Registration Number (FRN)
  - https://apps2.fcc.gov/fccUserReg/pages/createAccount.htm
  - You'll need this ID to get your callsign from the FCC after passing

- After passing your test:
  - $35 fee for amateur radio license applications (new, renewal, vanity) paid directly to the FCC

Taking the Test

- Find a testing location
  - https://www.arrl.org/licensing-education-training
  - SOARA offers regular test sessions
  - Remote tests over Zoom are also available, but security is tightly enforced

Taking the Test

- What to Bring to the Testing Location
  - Legal Photo ID
  - Two number two pencils and a pen
  - Blank sheet of paper for notes/calculations
  - Social security number or FRN (FCC Registration Number)
  - $15 Cash (exam fee) May be paid online before test
  - Calculator (optional)
    - Most calculations can be done in your head

Taking the Test

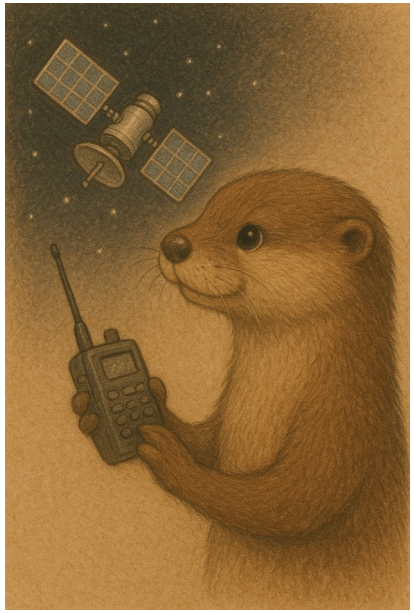
- Test is administered by three Volunteer Examiners (VEs)
  - Graded immediately
  - May be given on tablet computers instead of paper
- Have your FCC registered name and ID handy

After the Test

- Check the FCC database for your name and callsign
  - Might take a day or so to appear
  - When it does – you're legal
- Print your License (sent in email)
  - Carry a copy in your wallet
  - Post next to your radio
- 'Vanity' call signs (if you don't like what they gave you)
  - $20 fee

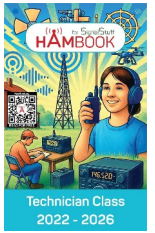
After the Test

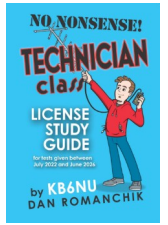
- Want to go further?
  - General
    - More HF privileges
  - Amateur Extra
    - Everything else. It doesn’t go any higher
  - Get involved (RACES, emergency response teams)
  - Join us on our weekly online nets



References

- Books
  - ARRL Ham Radio License Manuals (https://home.arrl.org/action/Shop/Store)
  - Fast Track Study Guides (https://fasttrackham.com)
  - Gordon West books (https://home.arrl.org/action/Shop/Products)
  - HamBook (https://hambook.org)
    - Technician ebook is free
  - No-Nonsense Study Guides (https://www.kb6nu.com/study-guides)
    - Technician PDF ebook is free
  - Tip: Ebooks let you study anywhere





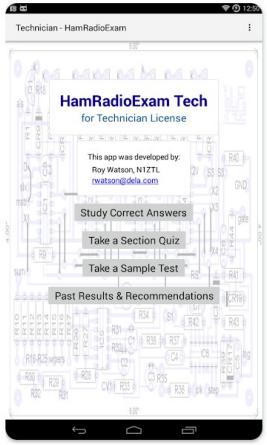
References

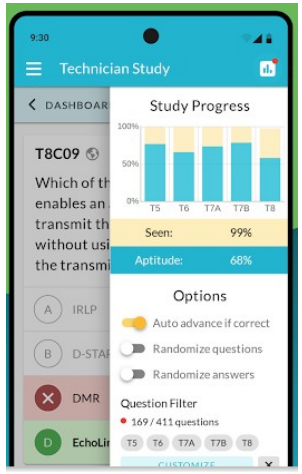
- YouTube Channels
  - Ham Radio Prep (https://www.youtube.com/@HamRadioPrep)
  - Ham Radio Crash Course (https://www.youtube.com/@HamRadioCrashCourse)
  - Ask Dave (https://www.youtube.com/@davecasler)
  - W4EEY (https://www.youtube.com/@W4EEY)

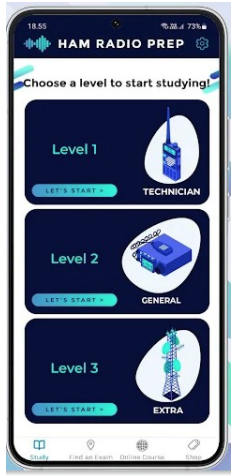
HAM RADIO PREP

References

- Apps
  - Ham Radio Exam
  - Ham Study
  - Ham Test Prep
  - Ham Radio Prep
- Online Test Simulators
  - QRZ (https://www.qrz.com/hamtest/)
  - ARRL (https://arrlexamreview.appspot.com/)

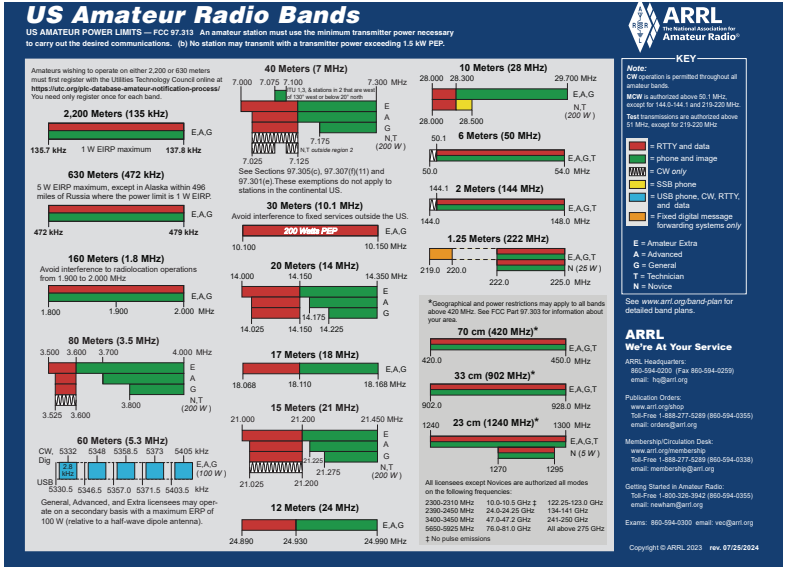






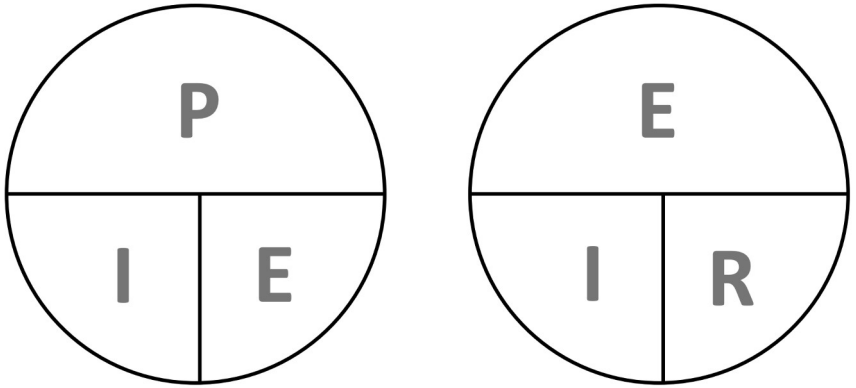
References

- Frequency Band Chart
  - https://www.arrl.org/files/file/Regulatory/Band%20Chart/Hambands4_Color_17x11.pdf



References

- Formulas
  - https://jgweb.us/ham/hamStudy.php



R = Resistance in Ohms
I = Current in Amperes
P = Power in Watts
E = Electromotive Force in Volts

Cover the value you need then view the formula. Covering the "R" shows E over I, or E divided by I, which does equal R.

Questions

- Download the Slides
  - https://drive.google.com/file/d/16KApu7UIUNSxFceAEsAOlL9ljeFHQ5RM/view?usp=drive_link