



ARRL The national association for
AMATEUR RADIO®

The ARRL General Class License Course

All You Need to Pass Your General Class Exam

LEVEL 2: General

For use with *The ARRL General Class License Manual*, Ninth Edition

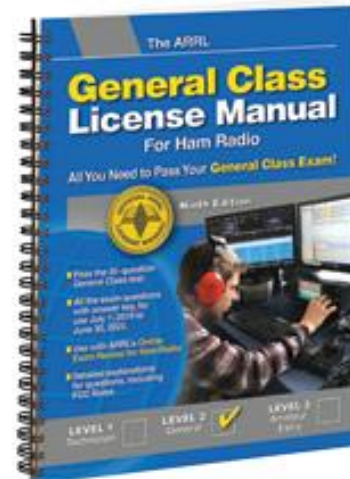


General Class License Course

Discovering the Excitement of Ham Radio



General Class License Manual and other resources



<http://www.arrl.org/shop/Licensing-Education-and-Training/>



Module 1

ARRL General Class Chapter 1 (1.1, 1.2, 1.3)

Introduction



Introductions

- Instructors
- Students
 - What is your name?
 - Tell us about yourself.
 - Why are you taking this course?
 - What do you know about ham radio?
 - What are your expectations for yourself & instructors?



Instructors' Expectations

- Class will start and end on time
- Instructor will be prepared for each topic
- Students are expected to read assigned material before class and be ready to learn
- Ham radio is NOT a spectator sport
 - Active participation in class is vital to success in obtaining your General Class license



Course Overview (book chapters)

1. Introduction
2. Procedures & Practices
3. Rules & Regulations
4. Components & Circuits
5. Radio Signals & Equipment
6. Digital Modes
7. Antennas
8. Propagation
9. Electrical & RF Safety



Let's Get Started!

- Our goal during this class is for each of you to achieve the General class Amateur Radio license!
- This license will authorize you to operate an Amateur Radio (ham radio) transmitter on frequencies well beyond that allowed with a technician class license

What Is Amateur Radio?

- Amateur (or Ham) Radio is a personal radio service authorized by the Federal Communications Commission (FCC)
 - To encourage the advancement of the art and science of radio
 - To promote the development of an emergency communication capability to assist communities when needed
 - To develop a pool of trained radio operators
 - To promote international goodwill by connecting private citizens in countries around the globe
- Through ham radio, you will become an ambassador for your community and your country



What Is Amateur Radio? (cont.)

- Amateur (or Ham) Radio is a personal radio service authorized by the Federal Communications Commission (FCC) ...
 - Governed by Part 97 of the FCC Rules and Regulations
 - Anyone can be a ham radio operator; no age limit
 - Amateur Radio operators cannot accept payment of any type for operating their radio, whether money other goods or services



What Do Hams Do?

- Communicate
- Experiment
- Build
- Compete
- Serve their communities
- Engage in lifelong learning



What Makes Ham Radio Different?

- There are many unlicensed radio services available (FRS, GMRS, etc.)
- Amateur Radio is very flexible...
 - Fewer restrictions
 - More frequencies (channels or bands)
 - More power (to improve range and quality)
 - More ways to communicate
 - It's FREE to operate your radio!

With More Privileges Comes More Responsibility

- Ham Radios are much more capable and have the potential of interfering with other radio services.
- Ham radios have unlimited reach; easily reach around the globe and into space
- FCC authorization is required to ensure the operator is qualified to operate safely, legally and appropriately



Upgrading to General

- Access to more frequencies (see table next slide)
 - You can operate **ALL BANDS!**
- General exam ...
 - Also referred to as *Element 3*
 - Taken from standard question pool (<http://www.arrl.org/general-question-pool>)
 - 35 questions (must get 26 correct)
 - Multiple choice

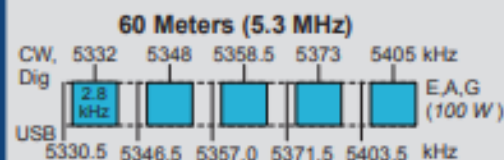
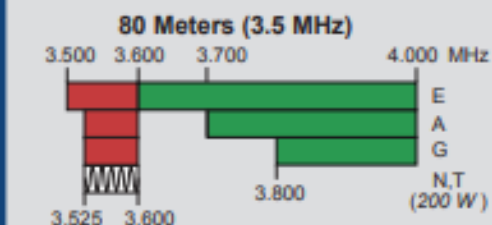
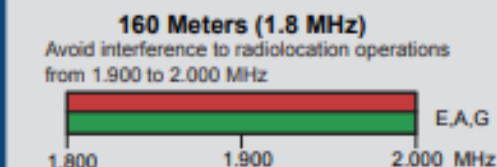
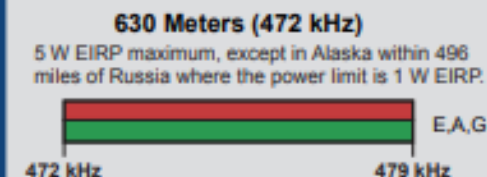
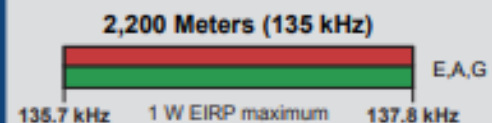
US Amateur Radio Bands

US AMATEUR POWER LIMITS — FCC 97.313 An amateur station must use the minimum transmitter power necessary to carry out the desired communications. (b) No station may transmit with a transmitter power exceeding 1.5 kW PEP.

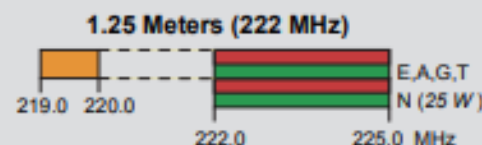
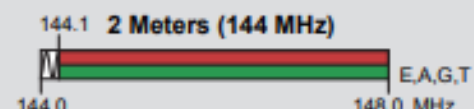
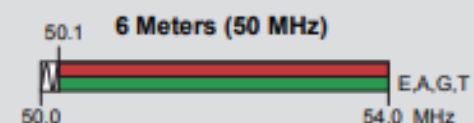
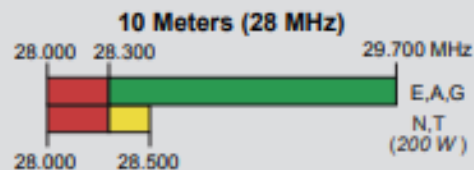
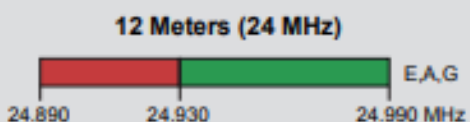
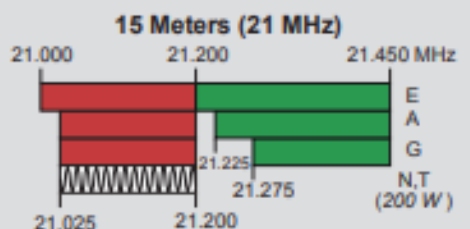
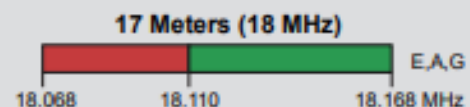
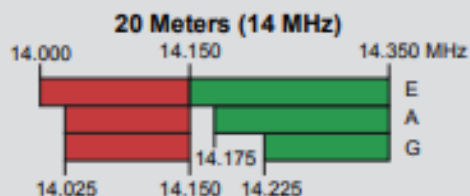
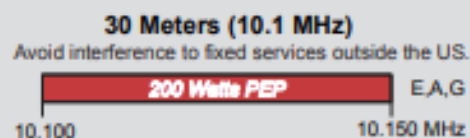
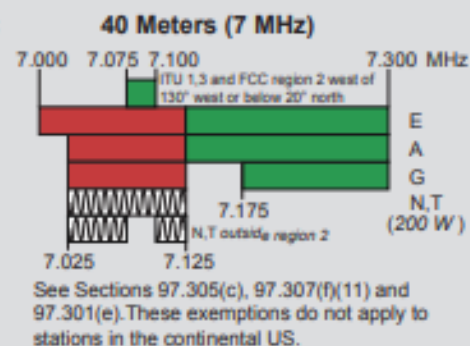


<http://www.arrl.org/graphical-frequency-allocations>

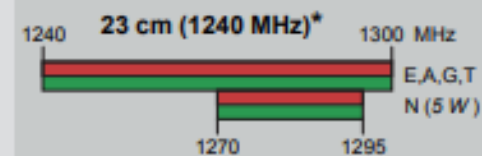
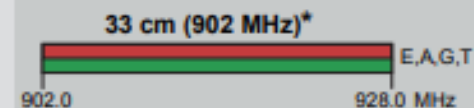
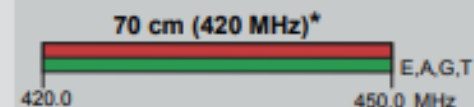
Amateurs wishing to operate on either 2,200 or 630 meters must first register with the Utilities Technology Council online at <https://utc.org/plc-database-amateur-notification-process/>. You need only register once for each band.



General, Advanced, and Amateur Extra licensees may operate on these five channels on a secondary basis with a maximum effective radiated power (ERP) of 100 W PEP relative to a half-wave dipole. Permitted operating modes include upper sideband voice (USB), CW, RTTY, PSK31 and other digital modes such as PACTOR III. Only one signal at a time is permitted on any channel.



*Geographical and power restrictions may apply to all bands above 420 MHz. See The ARRL Operating Manual for information about your area.



All licensees except Novices are authorized all modes on the following frequencies:

| | | |
|---------------|-----------------|-------------------|
| 2300-2310 MHz | 10.0-10.5 GHz ‡ | 122.25-123.0 GHz |
| 2390-2450 MHz | 24.0-24.25 GHz | 134-141 GHz |
| 3300-3500 MHz | 47.0-47.2 GHz | 241-250 GHz |
| 5650-5925 MHz | 76.0-81.0 GHz | All above 275 GHz |

‡ No pulse emissions

KEY

Note: CW operation is permitted throughout all amateur bands.

MCW is authorized above 50.1 MHz, except for 144.0-144.1 and 219-220 MHz.

Test transmissions are authorized above 51 MHz, except for 219-220 MHz

- = RTTY and data
- = phone and image
- = CW only
- = SSB phone
- = USB phone, CW, RTTY, and data
- = Fixed digital message forwarding systems only

E = Amateur Extra
A = Advanced
G = General
T = Technician
N = Novice

See ARRLWeb at www.arrl.org for detailed band plans.

ARRL We're At Your Service

ARRL Headquarters:
860-594-0200 (Fax 860-594-0259)
email: hq@arrl.org

Publication Orders:
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Toll-Free 1-888-277-5289 (860-594-0355)
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Membership/Circulation Desk:
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Toll-Free 1-888-277-5289 (860-594-0338)
email: membership@arrl.org

Getting Started in Amateur Radio:
Toll-Free 1-800-326-3942 (860-594-0355)
email: newham@arrl.org

Exams: 860-594-0300 email: vec@arrl.org



END OF MODULE 1

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Discovering the Excitement of Ham Radio



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AMATEUR RADIO®

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Feel free to contact me if you find errors or have suggestions for improvement.