

ED SCALLON, NN1ES

- PRESENTS -

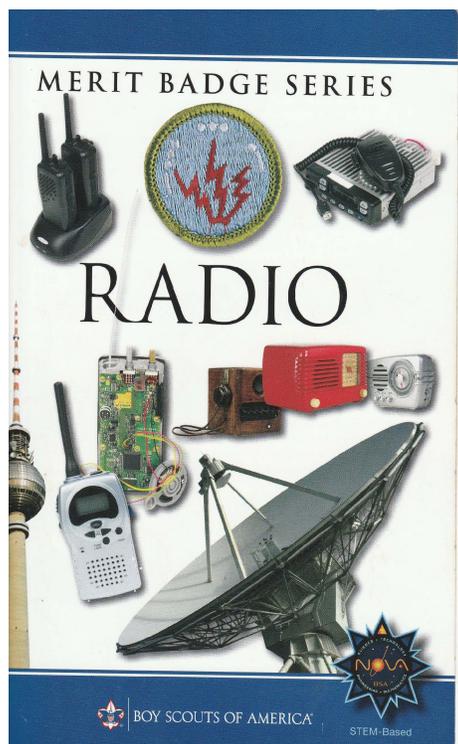
# CAMP NORSE RADIO MERIT BADGE

- PRESENTS -

COUNSELING SESSION

TEL. (508) 837-8407

FAX. (508) 379-9709



MERIT BADGE COUNSELOR  
for  
NARRAGANSETT COUNCIL  
BOY SCOUTS OF AMERICA

## \*\* RADIO \*\*

**Exclusively Sunday  
September 9, 2018**

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Merit Badge Counselor \*131783748

When you have earned this Merit Badge, you will know a lot about radio. You may even have found a lifelong hobby or career. Let's get started.



Although you will learn about Amateur Radio, Broadcast Radio and Shortwave Listening, our focus is on Amateur Radio. As Scouts you will have the opportunity, while earning your Merit Badge, to learn about the Adventures of Radio Communication, What Radio Really Is, Theory and the Code of Electronics, Safety Precautions, Licensing, Navigation, Loran, UHF/VHF, HF, Satellite, Morse Code, Standard ITU/ICAO Phonetic Alphabet, Call Signs, Ionosphere and how Radio Waves perform, Analog -vs- Digital and MUCH MORE !!

Lots of theory and actual practice. You will talk with stations around the corner and around the world but most of all - lots of FUN



During the upcoming Jamboree, you might have the opportunity to communicate with an astronaut aboard the ISS.

Your first step begins with your application. Your Scout Master or Unit Leader will authorize you to attend this event of Sunday afternoon August 13, 2017. Bring your Scout Buddy and in fact your parents if they want to visit our field radio shack while you use the radios.

After your have consulted with your parents and your Unit Leader, obtain and read the current Merit Badge Series on RADIO, available at your local scouting store. Be sure you have read it before our meeting.



After reviewing the electronic theory and discussing Ham Radio and its operation, you will then have an opportunity to put into practice what you have learned by calling CQ and making your first on the air Contact



# RADIO MERIT BADGE Requirements

1. Explain what radio is. Then discuss the following:

- The difference between broadcast radio and hobby radio
- The difference between broadcasting and two-way communications
- Radio station call signs and how they are used in broadcast radio and amateur radio.
- The phonetic alphabet and how it is used to communicate clearly

2.2. Do the following:

- Sketch a diagram showing how radio waves travel locally and around the world. Explain how the broadcast radio stations WWV and WWVH can be used to help determine what you will hear when you listen to a shortwave radio
- Explain the difference between a DX and a local station. Discuss what the Federal Communications Commission (FCC) does and how it is different from the International Telecommunication Union (ITU).

3. Do the Following:

- Draw a chart of the Electromagnetic spectrum covering 100 kilohertz (kHz) to 1,000 megahertz (MHZ).
- Label the MF, HF, VHF, UHF, and microwave portions of the spectrum on your diagram.
- Locate on your chart at least eight radioservices, such as AM and FM commercial broadcast, citizens band (CB), television, amateur radio (at least four amateur radio bands), and public service (police and fire).

4. Explain how radio waves carry information. Include in your explanation: transceiver, transmitter, receiver, amplifier, and antenna.

5. Do the following:

- Explain the differences between a block diagram and a schematic.
- Draw a block diagram for a radio station that includes a transceiver, amplifier, microphone, antenna and feed line.
- Explain the differences between an open circuit, a closed circuit, and a short circuit.
- Draw eight schematic symbols. Explain what three of the represented parts do. Find three electrical components to match to three of these symbols.

6. Explain the safety precautions for working with radio gear, including the concept of grounding for direct current circuits, power outlets, and antenna systems.

7. Visit a radio installation (an amateur radio station, broadcast station, or public service communications center, for example) approved in advance by your counselor. Discuss what types of equipment you saw in use, how it was used, what types of licenses are required to operate and maintain the equipment, and the purpose of the station.



8. Find out about three career opportunities in radio. Pick one and find out the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you. Explain how radio waves carry information. Include in your explanation: transceiver, transmitter, receiver, amplifier, and antenna.

9. AT THE SESSION COMPLETE THE FOLLOWING:

## a. AMATEUR RADIO

(1) Tell why the FCC has an amateur radio service. Describe some of the activities that amateur radio operators can do on the air, once they have earned an amateur radio license.

(2) Using proper call signs, Q signals, and abbreviations, carry on a 10-minute real or simulated amateur radio contact using voice, Morse code, or digital mode. (Licensed amateur radio operators may substitute five QSL cards as evidence of contacts with amateur radio operators format at least three different call districts.) Properly log the real or simulated ham radio contact and record the signal report.

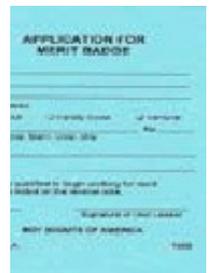
(3) Explain at least five Q signals or amateur radio terms you hear while listening.

(4) Explain some of the differences between the Technician, General, and Extra Class license requirements and privileges. Explain who administers amateur radio exams.

(5) Explain how you would make an emergency call on voice or Morse code.

(6) Explain the differences between handheld transceivers and home "base" transceivers. Explain the uses of mobile amateur radio transceivers and amateur radio repeaters.

Don't forget to bring the your application when you attend your Merit Badge counseling session.



You will have to turn in a successful application to your Unit Leader showing you have met all the requirements for your Radio Merit Badge.