

Jack Graves Reservation BA

South 193rd East Ave.

Fine Ring Amphitheater

Archery Range

Ernest Thomas Seton Pavilion

William Boyce Pavilion

Merit Badge Pavilion

BB Gun Range

ARRL license Exam

Baden Powell Pavilion

Boardwalk

Ham Station Area

Robson Pavilion

Trading Post

Vendor Display Area

General Parking Overflow & Ham/Vendors Parking Field Area

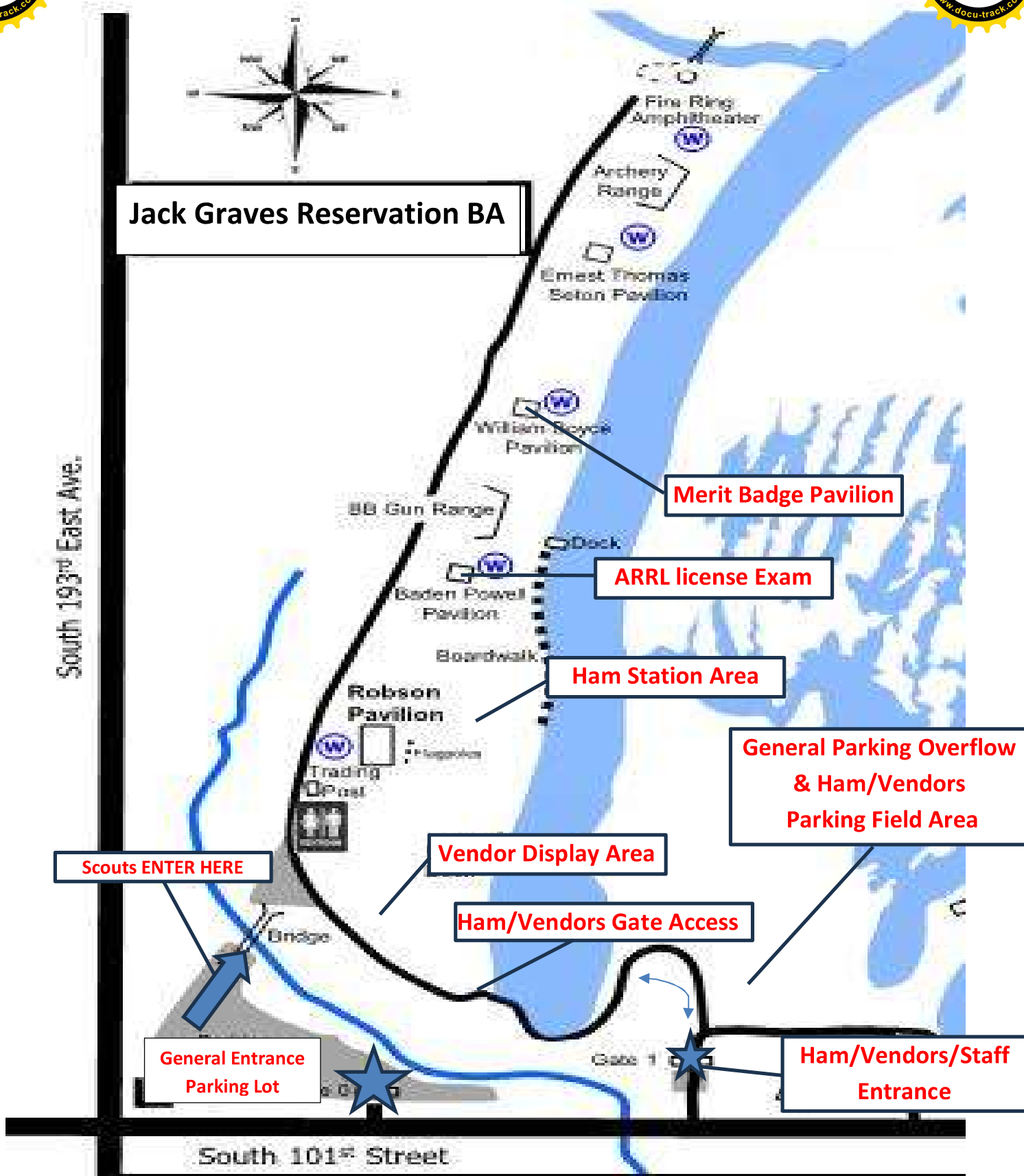
Scouts ENTER HERE

Ham/Vendors Gate Access

General Entrance Parking Lot

Ham/Vendors/Staff Entrance

South 101st Street





JAMBOREE-ON-THE-AIR

FOR BSA SCOUT LEADERS



Jamboree-on-the-Air, or JOTA, is the largest Scouting event in the world. It is held annually during the third full weekend in October. JOTA uses amateur radio to link Scouts and radio operators around the world, around the nation, and in your own community. This jamboree requires no travel, other than to a nearby amateur radio operator's ham shack. Many times you will find the radio operators will come to you by setting up a station at your Scout camporee, at the park down the block, or perhaps at a ham shack already set up at your council's camp.

Tell Me More

Scouts of any age can participate: from Cub Scouts, Scouts BSA and Venturers, up to Adult Leaders. Once at the ham radio station, the communication typically involves talking on a microphone and listening on the station speakers. However, many forms of specialized communication may also be taking place, such as video communication, digital communication (much like sending a message on your smartphone but transmitted by radio), or communication through a satellite relay or an earth-based relay (called a repeater). The exchanges include such information as name, location (called QTH in ham speak), Scout rank, age, and hobbies.

The stations you'll be communicating with can be across town, across the country, or even around the world! The World Scout Bureau reported that nearly over 1 million Scouts and around 20,000 amateur radio operators participate in JOTA annually, from more than 17,000 stations in over 150 countries.

When Is It?

Jamboree-on-the-Air is held during the third weekend in October every year. JOTA starts Friday and ends Sunday, but there are no official hours of operation, so you have the whole weekend to make JOTA contacts.

How Can I Participate as a Scout?

Contact your local Scout council and see what may already be planned in your area. You can also contact a local ham radio operator or a local amateur radio club. You can find a searchable database of clubs at arrrl.org/find-a-club. This website is operated by the American Radio Relay League, the national association for amateur radio, which is cooperating closely with the BSA on JOTA and many other activities.

Your local club may be able to direct you to its planned JOTA activities. These can include ham stations set up at camporees or other events. Or, if there are no planned activities, you can either work with them to get something set up or arrange to visit a local radio operator's ham shack at a scheduled time to participate in JOTA.

Where Can I Find More Information?

Substantial JOTA resources are available online.

Go to scouting.org/jota, or scan this QR code with your smartphone, for the information provided by the Boy Scouts of America.



Information is also available from the ARRL at: arrrl.org/jamboree-on-the-air-jota



Prepared. For Life.®

130-218
2019 Printing



INDIAN NATIONS COUNCIL
BOY SCOUTS OF AMERICA

Morse Code Interpreter Strip

The Morse Code interpreter strip designates those who are proficient in Morse Code and denotes their availability for emergency communications and other types of supporting communication for Scouting and the community.

Youth and adults may wear this strip if they show their knowledge of Morse Code by:

1. Carrying on a five-minute conversation in Morse Code at a speed of at least 5 words per minute.
2. Copying correctly a two-minute message sent in Morse Code at a minimum of 5 words per minute. Copying means writing the message down as it is received.
3. Sending a 25 word written document in Morse Code at a minimum of 5 words per minute.

These requirements closely match those of other interpreter strips, which can be found at <http://bit.ly/interpreter-strip>

Patch Design

The dots and dashes spell out the message M-O-R-S-E



Ordering

BSA Supply, 1-800-323-0736
Morse Code Interpreter Strip #615120

Many questions have surfaced over how to qualify for the interpreter strip, who determines the qualification, etc. Administration of all interpreter strips are done at the unit level by the unit leader or someone they designate who has the skills and knowledge to verify current proficiency in the language, in this case Morse Code (CW).



BOY SCOUTS OF AMERICA
MERIT BADGE SERIES

RADIO



"Enhancing our youths' competitive edge through merit badges"



BOY SCOUTS OF AMERICA®



Radio

1. Explain what radio is. Then discuss the following:
 - (a) The differences between broadcast radio and hobby radio
 - (b) The differences between broadcasting and two-way communications
 - (c) Radio station call signs and how they are used in broadcast radio and amateur radio
 - (d) The phonetic alphabet and how it is used to communicate clearly
 2. Do the following:
 - (a) Sketch a diagram showing how radio waves travel locally and around the world.
 - (b) Explain how the radio stations WWV and WWVH can be used to help determine what you can expect to hear when you listen to a shortwave radio.
 - (c) Explain the difference between a distant (DX) and a local station.
 - (d) Discuss what the Federal Communications Commission (FCC) does and how it is different from the International Telecommunication Union.
 3. Do the following:
 - (a) Draw a chart of the electromagnetic spectrum covering 300 kilohertz (kHz) to 3,000 megahertz (MHz).
 - (b) Label the MF, HF, VHF, UHF, and microwave portions of the spectrum on your diagram.
 - (c) Locate on your chart at least eight radio services, 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:
 - (a) Explain the differences between a block diagram and a schematic diagram.
 - (b) Draw a block diagram for a radio station that includes a transceiver, amplifier, microphone, antenna, and feed line.
 - (c) Discuss how information is sent when using amplitude modulation (AM), frequency modulation (FM), continuous wave (CW) Morse Code transmission, single sideband (SSB) transmission, and digital transmission.
-



- (d) Explain how NOAA Weather Radio (NWR) can alert you to danger.
- (e) Explain how cellular telephones work. Identify their benefits and limitations in an emergency.
- 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.
- 9. Do ONE of the following (a OR b OR c OR d):
 - (a) **Amateur Radio**
 - (1) Tell why the FCC has an amateur radio service. Describe activities that amateur radio operators can do on the air, once they have earned an amateur radio license.
 - (2) Explain differences between the Technician, General, and Extra Class license requirements and privileges. Explain who administers amateur radio exams.
 - (3) Explain at least five Q signals or amateur radio terms.
 - (4) Explain how you would make an emergency call on voice or Morse code.
 - (5) Explain the differences between handheld transceivers and home "base" transceivers. Explain the uses of mobile amateur radio transceivers and amateur radio repeaters.
 - (6) 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 five amateur radio operators.) Properly log the real or simulated ham radio contact, and record the signal report.
 - (b) **Radio Broadcasting**
 - (1) Discuss with your counselor FCC broadcast regulations. Include power levels, frequencies, and the regulations for low-power stations.
 - (2) Prepare a program schedule for radio station "KBSA" of exactly one-half hour, including music, news, commercials, and proper station identification. Record your program on audiotape or in a digital audio format, using proper techniques.
 - (3) Listen to and properly log 15 broadcast stations. Determine the program format and target audience for five of these stations.
 - (4) Explain to your counselor at least eight terms used in commercial broadcasting, such as segue, cut, fade, continuity, remote, Emergency Alert System, network, cue, dead air, PSA, and playlist.



(5) Discuss with your counselor alternative radio platforms such as internet streaming, satellite radio, and podcasts.

(c) Shortwave and Medium-Wave Listening

(1) Listen across several shortwave bands for four one-hour periods—at least one period during daylight hours and at least one period at night. Log the stations properly and locate them geographically on a map, globe, or web-based mapping service.

(2) Listen to several medium-wave stations for two one-hour periods, one period during daylight hours and one period at night. Log the stations properly and locate them on a map, globe, or web-based mapping service.

(3) Compare your daytime and nighttime shortwave logs; note the frequencies on which your selected stations were loudest during each session. Explain differences in the signal strength from one period to the next.

(4) Compare your medium-wave broadcast station logs and explain why some distant stations are heard at your location only during the night.

(5) Demonstrate listening to a radio broadcast using a smartphone/cell phone. Include international broadcasts in your demonstration.

(d) Amateur Radio Direction Finding

(1) Describe amateur radio direction finding and explain why direction finding is important as both an activity and in competition.

(2) Describe what frequencies and equipment are used for ARDF or fox hunting.

(3) Build a simple directional antenna for either of the two frequencies used in ARDF.

(4) Participate in a simple fox hunt using your antenna along with a provided receiver.

(5) Show, on a map, how you located the “fox” using your receiver.



ARRL Youth Licensing Grant Program



FCC APPLICATION FEE REIMBURSEMENT INFORMATION

ARRL will cover the one-time \$35 application fee for new license candidates younger than 18-years old for tests administered under the auspices of the ARRL Volunteer Examiner Coordinator (ARRL VEC). The \$35 FCC application fee will be reimbursed after the ARRL VEC receives the completed reimbursement form and the new license has been issued by the FCC. The reimbursement check will be mailed to the fee payer. Also, candidates younger than 18-years old would pay a reduced exam session fee of \$5 to the ARRL VEC VE team at the time of the exam. Proof of under 18 status is required at the session (www.arrl.org/what-to-bring-to-an-exam-session).

EXAMINEE	
EXAMINEE FIRST NAME	EXAMINEE LAST NAME
DATE OF EXAMINATION	FCC REGISTRATION NUMBER (FRN)
LOCATION OF EXAMINATION: CITY AND STATE	

PAYER – THIS INDIVIDUAL WILL RECEIVE THE REIMBURSEMENT		
PAYER FIRST NAME	PAYER LAST NAME	CALL SIGN (IF ANY)
MAILING ADDRESS (Number and Street or P.O. Box)		DAYTIME PHONE NUMBER
CITY	STATE CODE	ZIP CODE
EMAIL ADDRESS (MANDATORY)		
RELATIONSHIP TO EXAMINEE (PLEASE CHECK ONLY ONE BOX)		
☐ Self ☐ Parent/Guardian ☐ Teacher ☐ Club ☐ Mentor/Elmer ☐ Other _____		

For reimbursements of multiple examinees from the same payer, please use the back of the form.

Additional candidate and VE team information and payer instructions are located on the ARRL website: www.arrl.org/youth-licensing-grant-program.

ARRL VEC 225 Main St. Newington, CT 06111

email: VEC@arrl.org

FAX: 860-594-0339



JOTA Safety Procedures

LIGHTNING

- If you see lightning or hear thunder, pay attention to your surroundings. Stay away from the antennas.
- If you can see the lightning take shelter in the bunk house or if there is not time spread out at least 30 feet apart and get in the crouched lightning position.
- If some one is struck, immediately call for help and begin medical care. They cannot shock you.

INJURY OR MEDICAL PROBLEM

- If you are hurt or see someone hurt, send someone for help and begin medical care to the best of your ability.
- If the person is contact with an electrical wire DO NOT ATTEMPT TO REMOVE THE PERSON OR WIRE.
- Stay calm, do not move the person unless the problem is minor.
- There is a medical team on-site, please report all injuries to them.
- Account for everyone in your group.

GENERAL EMERGENCY OR EVACUATION

- If you hear 3 blasts of a whistle or siren report to the bunkhouse for directions.
- Do not go to your tents or campsite first.
- Account for everyone in your group.

RF ENERGY

- Antennas can have dangerous RF Energy from the electrical signal sent into them and can burn you.
- You can not see this energy and it may be intermittent.
- Treat all antennas as if they are energized and DO NOT TOUCH.
- Treat all support, guy and feed wires as part of the antenna and DO NOT TOUCH.
- Hand held radios with rubber antennas should be kept away from the skin in use.