Field Portable Operations

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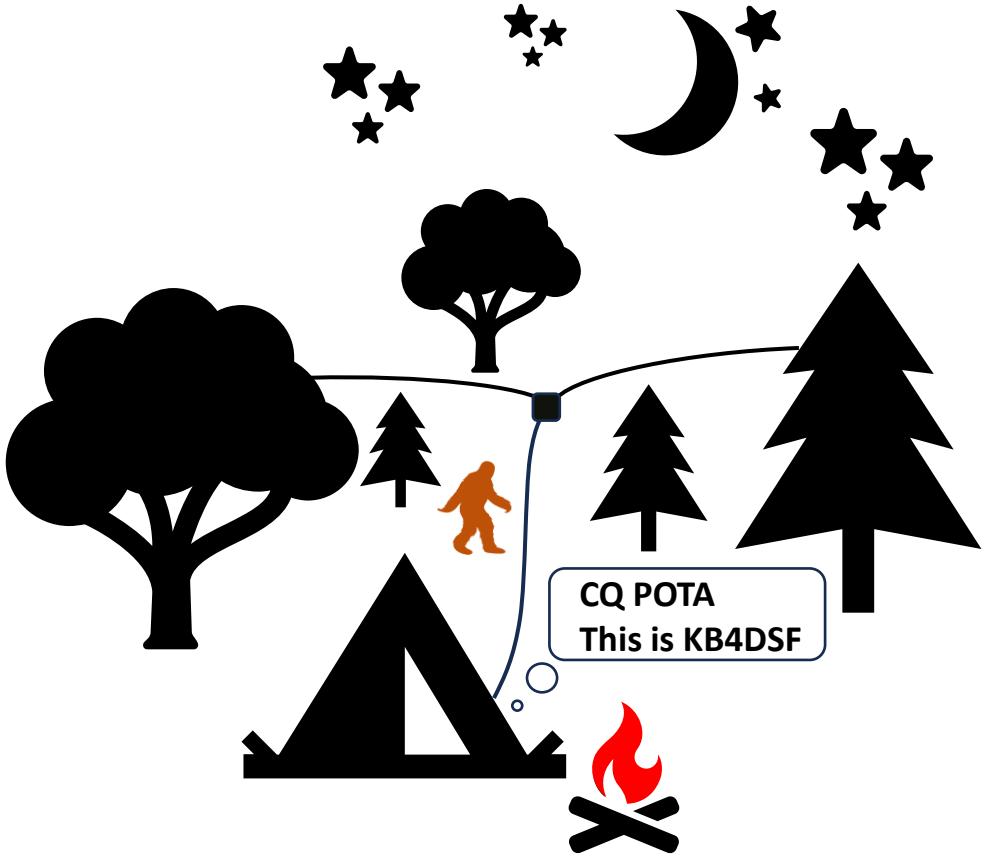
To Cover

- Why?
- Transceiver Options
- Power Supply Options
- Antenna and Feedline Options



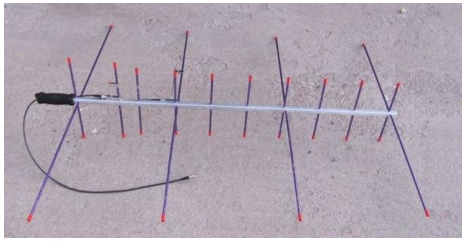
Why?

- First things first: Set a goal
  - HOA, QRP, QRPp, # of parks in set time, minimum weight, specific band (WARC Band Wednesday),emergency communications practice, etc

- The challenge—Everything is portable
  - Location
    - Vehicle, hiking, canoeing/kayaking, etc
  - Equipment
    - Power levels, power supply, weight
  - Operating band
  - Overnight or multi-day adventures
    - Know what you are doing and have the right equipment
  - Navigational aids
    - Maps, compass, GPS, etc

Transceiver Options

- Consider goal and operation environment
- Planned operation band
  - What are the band conditions?
- Planned operating modulation
  - Phone, Data, CW, or combination
- Computer and cabling considerations for data operations
- How to power the radio
  - Planned RF power output



Power Supply Options

- Consider goal and operation environment
- Transceiver's power input requirements
- Planned operating period
- Planned operating modulation type(s)
- Planned power output
- 120 VAC available?

Power Supply Options

Battery Type	Size (mm)	Weight (g)	Nominal Voltage (V)	Capacity (mAh)	Chemistry
AA Alkaline	14.5 × 50.5	~23 g	1.5 V	~2500–3000 mAh	Alkaline (Zn/MnO_2)
AA Lithium	14.5 × 50.5	~15 g	1.5 V	~3000–3500 mAh	Lithium Iron Disulfide
9V Alkaline	26.5 × 17.5 × 48.5	~45 g	9 V	~500–600 mAh	Alkaline (Zn/MnO_2)
9V Lithium	26.5 × 17.5 × 48.5	~34 g	9 V	~1200 mAh	Lithium ($Li-MnO_2$)
18650 Li-ion	18.6 × 65.2	~45 g	3.6–3.7 V	~2000–3500 mAh	Lithium-ion ($LiCoO_2$, etc.)

Antenna Options

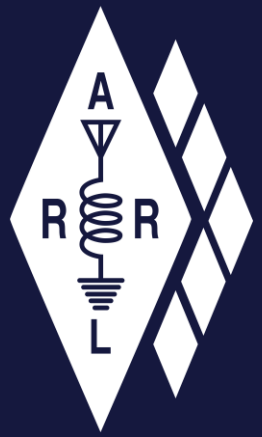
- Consider goal and operation environment
- Planned operating period
- Ease of deployment
- Planned power output
- Availability of vertical structures
  - Trees
  - Posts (not utility posts)
- Locale rules
  - Ability to use trees
  - Ability to use ground spikes
- DIY OPPORTUNITIES!!
- SAFETY!!

Feedline Options

Cable Type	Outer Diameter	Weight (lbs/ft)	Signal Loss @ 100 MHz (dB/100 ft)
RG-8	0.405 in (10.3 mm)	~0.12	~0.22
RG-8X	0.242 in (6.15 mm)	~0.065	~0.4
RG-58	0.195 in (4.95 mm)	~0.03	~0.55
RG-174	0.098 in (2.5 mm)	~0.011	~7.6
RG-316	0.098 in (2.5 mm)	~0.015	~6.6

Next Month On the Air Live August 26 @8pm Eastern September National Preparedness Month

Thank You!



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