



# WORKING WITH ALTERNATE COMMUNICATIONS SYSTEMS

*May 7, 2026*

*Chehalis Office of Emergency Management*

# Goals of our Tribe for Communications -PACE

To increase ability to communicate when phone systems, internet or regular PS radios go down or have issues. Communications affect:

- ▶ Health
- ▶ Infrastructure
- ▶ Housing
- ▶ Food Supply
- ▶ Safety
- ▶ Responses

# Objectives

- ▶ Determine some of the emergency response weaknesses with communications within your Tribe.
- ▶ How to develop a working HAM radio system (or Satellite) that connects us with agencies outside of the Tribe. SHARES
- ▶ Support from the Tribal Government is vital.
- ▶ Cooperation and connection with local Counties, State of Washington, Other Tribes, FEMA and Private Agencies is a necessity.

# Tribal Considerations-Alike

Areas of responsibility-Tribe is like a small city, county, or even state.

- ▶ Tribal Departments are much like city or county- i.e., Education, Finance, Public Works, Facilities, Law, IT, Admin, etc.
- ▶ Same communication and personnel issues as any other government agency.
- ▶ Issues may be complex or simple but follow same needs of every community.

# Tribal Differences

- ▶ Most Tribes do not have substantial backup communications systems
- ▶ May use Family Services radios (FRS) or typical Emergency Services Radios for dispatch



# Basic 2 Meter HAM Base Station



**Talk to your Admin/Campus/Small Area or add repeater and talk 30-40 miles.... \$ 500.00-\$ 5000.00**

# Newer types of hybrid radios


- ▶ Rapid Radios
- ▶ Zoleo Satellite pagers

NO MONTHLY SERVICE FEES - NO CONTRACTS - NO R.S.

(818) 277-3488

Search for Cheap

Home » Rapid Radios Nationwide PTT Walkie-Talkie



5.0/5 (1646 Verified Reviews)  
Rapid Radios Nationwide PTT Walkie-Talkie  
Regular price \$997.00 USD  
Sale price \$399.00 USD  
Save \$598

Quantity  
2-Pack 3-Pack 4-Pack 6-Pack Base/Car Unit



# Starlink Type- Satellite Hot Spot



**Residential \$ 120.00 Month- Mobile \$ 150.00 Month  
May need optional battery pack, cables, etc.**

# Mobile-Trailer Type-Satellite



**\$ 14,000- \$ 18,000**

# Snohomish County- EM- Internet, Phone- Data- ALL

## Photos

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Loaded and ready for a mission



Network equipment  
mounted overhead with  
custom 3D printed brackets

# Build your Own-Does everything!

## Now How Much Would You Pay?

- These units cost between \$25,000-\$30,000 as configured
  - This is equipment price, not development or labor
  - Having skilled volunteers is an invaluable asset!
- Equipment can be built on most any platform (trailer or vehicle)

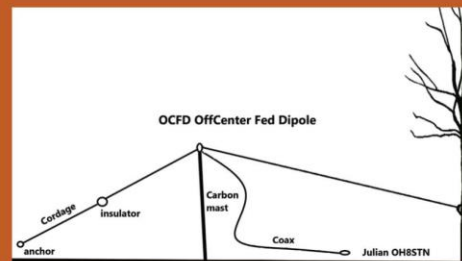
Description	Category	Subtotal
5'x8' trailer with lighting, ladder rack and other upgrades	Trailer	\$ 7,022.51
200AH lithium batteries, solar panels, solar charger, inverter/charger, breakers, outlets, etc.	Electrical	\$ 5,851.52
Fasteners, tape, glue, nylon webbing, plywood	Hardware	\$ 520.82
Hand tools, drill/driver, driver bits, paracord, straps, work gloves, gaffer tape, zip ties	Tools	\$ 429.54
Cradlepoint LTE modem, Ubiquiti networking equipment, wireless bridges, antennas, cabling	Network	\$ 5,369.11
Canopy, tables, chairs, power cords/strips, power stations, tarps, office supplies, mast kit	Support	\$ 3,810.78

7

# \$ 18,000-\$30,000

# All in One- HF- SHARES

## BACKUP FIELD RADIO SYSTEM



We are working on (2) of these PORTABLE units to take anywhere for use as an EMERGENCY RADIO SYSTEM

# Sample HF (HAM) systems that can work



**Can be simple or more complex**

# Where to get the Build?



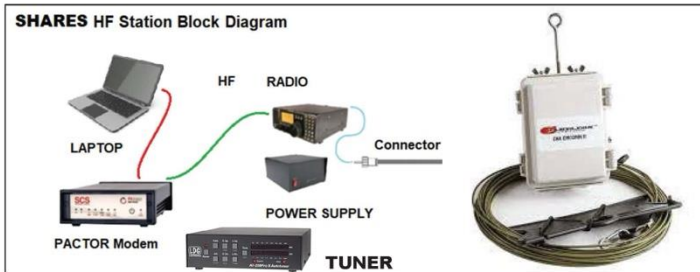
WASHINGTON STATE GUARD  
BILL OF MATERIALS

Document Title: HF RADIO FIELD UNIT

Page No. 1 of 7 Chehalis Tribal EM

## BILL OF MATERIAL(BOM) : HF RADIO PORTABLE UNITS

**Objective:** Use this BOM to identify critical components necessary to creating a portable radio unit Field Unit.



**Note:** BOM should be used as a guideline; MFR part numbers are starting points for investigating that individual component and alternatives may be used as appropriate for the site / build.

### Field deployable Broadband Dipole Antenna:

#### 1. Inverted "L" Antenna: CHA EMCOMM II V2

- a) Quantity: 2  
Price Estimate : \$ 385.00



# Response Discussion

**How does your Tribe connect with their city, county and state partners in emergency management?**

**Build relationships-Calls, emails, attending training together- councils (LEPC, DAC, Citizen Corps, etc.) and work with these partners.**

# FIND OUT-REFERENCES

▶ Starlink:

<https://starlink.com/>

▶ State EMD- Communication Scott Dakers

Scott Dakers  
Washington State Emergency Management Division  
Disaster Emergency Communications Lead

DHS CISA SHARES Regional Coordinator  
Cell/ Text: (253) 366-1942

Touhsat-T100

[https://www.remotesatellite.com/wp-content/uploads/2018/05/T-100\\_Touhsat\\_Communications\\_Trailer-brochure-1.pdf](https://www.remotesatellite.com/wp-content/uploads/2018/05/T-100_Touhsat_Communications_Trailer-brochure-1.pdf)

# FIND OUT-REFERENCES(cont)

► Zoleo:

<https://www.zoleo.com>

Rapid Radios:

<https://rapidradios.com>

## REFERENCES-(cont.)

**2023 Grays Harbor Amateur Radio Club**

**360-777-6655**

**PO Box 2250Aberdeen, WA 98520**

**GHARC [Helpdeskinfo@gharc.net](mailto:Helpdeskinfo@gharc.net)**

**Olympia Amateur Radio**

**Society**

**Olyham.blogspot.com**

**Pierce Count ARES**

**[https://piercecounyares.](https://piercecounyares.net/about/)**

**net/about/**



# Thank You!

[EM@ChehalisTribes.org](mailto:EM@ChehalisTribes.org)

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