OFF-GRID COMMUNICATIONS · QUICK REFERENCE

magikh0e.pl/pubHardwareHacking/off-grid-communications.html

Pick the tool by the job

Hear what's happening	AM/FM radio, NOAA
Family nearby	FRS
Across town	GMRS, simplex or repeater
Across the island	ham repeater
Text with no towers	Meshtastic
Off the island	satellite SOS or messenger

Our plan: fill it in

Primary	cell and internet
Alternate	Meshtastic ch _____
Contingency	FRS/GMRS ch _____ ham _____
	listen :00-:05 every hour
Emergency	repeater _____ tone _____
	or satellite SOS
Meet at	1. _____
	2. _____
Off-island contact	_____

Cell and internet down (Maui)

KMVI 900 AM, KAOI 1110 AM: EAS primaries
County FM: KPOA, KJKS, KJMD, KLHI, KNUI
NOAA WWG75 162.400 from Haleakalā
Ham calling: 146.520 and 446.000 simplex
KH6COM (offset tone): Haleakalā 146.940- 110.9,
147.080+ 107.2, 442.100+ 136.5; Kaanapali
146.900- 136.5; Wailuku 146.760- 100.0
Repeater silent? Try simplex, then another site.
911 down in West Maui? County guidance:
Lahaina Police Station, Honoapi‘ilani Hwy

Other frequencies (MHz)

NOAA WX	162.400 162.425 162.450 162.475
	162.500 162.525 162.550
MURS	151.820 151.880 151.940
	154.570 154.600 (no license)
Marine	16 156.800 distress and calling
	22A 157.100 Coast Guard liaison
	On land: listen only.
CB	9 27.065 emergency
Aviation	121.500 AM emergency (listen)
Ham HF	7.088 LSB: Hawaii ARES nets

Jungle antenna (2 m)

Length in feet = 234 / MHz
= about 19 1/4" per wire at 146 MHz

Vertical	1 wire to the coax center
Radials	3-4 wires to the shield, drooped about 45 degrees (that's ~50 ohms)
Coax	a few meters of RG-58, BNC end
Hoist	paracord over a high branch

70 cm: about 6 1/4" per wire.
Never anywhere near power lines.

Sending text

Meshtastic	app, node to node, no license
FRS/GMRS	some certified radios text one radio, 1 message per 30 s

Ham (licensed):

NBEMS	fldigi/AndFlmsg, MT63-2KL; works by acoustic coupling, no cable
APRS	144.390 MHz
Winlink	email over radio via gateways

Acoustic: phone near the mic, mid volume,
notifications OFF.

Power

Charge on a schedule, not when you remember.
Spare battery + power bank for each radio.
Low power when it gets through; keep it short.
Check-in windows let radios rest in between.

GMRS / FRS channels (MHz)

1 462.5625	8 467.5625	15 462.5500
2 462.5875	9 467.5875	16 462.5750
3 462.6125	10 467.6125	17 462.6000
4 462.6375	11 467.6375	18 462.6250
5 462.6625	12 467.6625	19 462.6500
6 462.6875	13 467.6875	20 462.6750
7 462.7125	14 467.7125	21 462.7000
		22 462.7250

GMRS: 1-7 5 W, 8-14 0.5 W, 15-22 50 W.
Repeater pairs 15RP-22RP: out on 15-22,
in 5 MHz up (467.5500-467.7250); need tone.
Maui GMRS repeaters: Kula (550 pair), Wailuku.
Ridges block UHF: go through a repeater
or get up high.