

Ham 76 - Go box vhf

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What is a 'Go Box?' It is a radio station packaged for portability.

This system is weatherproof as long as the box is closed. The packaging cushions for minor shock and drops. Foil metal applied to the inside of the case provides some noise and EMF protection.

When opened, remove antenna and connect. Select power supply. Turn on radio. Operate. The power supply has vents cut around, so it can operate while in the case.

Radio: *Icom 2730*, 50 W, VHF/UHF, dual receivers, large bright LCD display for outdoor, adjustable head with mic allows separation of 10 feet from base. Speaker on top.

Antenna: *CompacTenna*, dual band is best, smallest for not-line-of-sight transmission.

Bracket & counterpoise: Bracket by Brett or 4" octagon box. Counterpoise length is $\lambda/8$, about 12". $\lambda/12$, about 7", is shown. The short size allows packaging and reasonable communications. Because of short length, the coax shield forms part of counterpoise.

Ferrite beads and Polyphaser: Cannot be used, since coax is part of counterpoise.

Longer counterpoise. Four 18" wires can be stuck along the side for conventional, but little change in performance.

Coax: RG-8X for flexibility. 15' allows arrangement in field. Although less loss, RG-213 is too stiff for portable use.

Mast: 1" pipe flange with PVC pipe and coupling.

Power Supply: *MFJ 4230* or similar small ham supply with low noise. Primary source when AC is available. Hot glue adjustable knob so voltage does not inadvertently change.

Wood rails: Power supply mounts with Velcro to 1/2" thick wood slats for spacing. These are positioned on top of base foam cushion. Radio mounted to supply with Velcro. Foam separates everything for shock.

Batteries: Gel cell from alarm or lithium is better. Size for duration needed. Each 10 Amp-hr gives one hour transmit at full power. Reduce power for longer time.

Antenna analyzer: *Rig-Expert Stick-Pro* for testing antenna, which may get bent. The unit has a bright screen usable outdoors. Not as flexible as a much cheaper VNA, it is more rugged and easier to see.

Screwdriver: Multiple tips for tightening counterpoise, mast mount, and equipment of neighbor who forgot one.

Case: Weatherproof and shock absorbing, 18x12.9x7.6". Apache 4800 from Harbor Freight or similar.

Handi-Talkie: Cross-band so can move around from radio. Always on, really drains main battery supply, so be judicious. Not shown.

Extension cord: Outdoor, #16/3, 25 feet for shore power. Not shown.

Battery Maintainer: Noco Genius 1 so batteries are ready. Not shown.

Life is good. Enjoy!

