

OUTPOST 40 // TACTICAL DIRECTIVE

THE \$100 OFF-GRID POWER GO-BOX: 12V DC FIELD GENERATOR

Emergency guidelines for assembling a silent, modular DC power bank using budget components, surplus batteries, and basic shop tools.

PHASE 1: SALVAGE MATERIAL & COMPONENT CHECKLIST

Before assembling, audit your shop for reusable enclosures and wiring hardware. Keeping costs under \$100 means leveraging budget-friendly lithium or deep-cycle SLA power sources and standard hobbyist charging modules.

- **The Enclosure:** A sturdy 30-caliber/50-caliber metal ammo can or a heavy-duty plastic utility case (drill-friendly and water-resistant).
- **The Battery:** 12V 18Ah to 20Ah Sealed Lead-Acid (SLA) battery or a budget 12V 10Ah LiFePO4 drop-in battery pack.
- **Power Output Panel:** A 12V multi-port socket plate featuring dual USB-A/Type-C ports, a standard 12V cigarette lighter socket, and a digital LED voltage meter.
- **Protection & Switching:** Inline blade fuse holder (10A–15A fuse) and a heavy-duty rocker switch to cut master power and prevent parasitic drain.
- **Charging Interface:** 8mm DC barrel jack or Anderson Powerpole connectors wired to accept a standard 12V solar panel or wall trickle charger.
- **Wiring & Hardware:** 14-gauge stranded copper wire, heat shrink tubing, ring terminals, and basic hand tools (wire strippers, crimpers, and a drill).

PHASE 2: STEP-BY-STEP GO-BOX ASSEMBLY

Turn a standard storage container into a silent, rugged off-grid power station.

01 Enclosure Layout & Drilling

- Mark your faceplate layout on the side or lid of your ammo can, keeping it high enough to avoid bottom condensation pools.
- Use a step bit or hole saw to cut ports for your 12V socket panel and master power switch. *Pro-tip: Line bare metal edges with electrical tape or rubber grommets to prevent wire chaffing.*

02 Circuit Wiring & Fusing

- Wire the positive terminal of your battery through the master rocker switch, immediately followed by an inline fuse holder (crucial for preventing catastrophic short circuits).
- Run the fused positive and negative lines to the input side of your multi-port socket panel, ensuring correct polarity (Red to Positive, Black to Negative).

03 Battery Seating & Securing

- Mount your battery securely inside the base of the can using heavy-duty Velcro, foam blocks, or a strap bracket. A shifting battery breaks soldered joints in the field.
- Connect the final leads to the battery terminals, seal any exterior cable entry points with silicone if necessary, and flip the master switch to verify the LED voltage display lights up.

PHASE 3: SYSTEM PERFORMANCE & LOAD MATRIX

DEVICE TIER	TYPICAL DRAW	RUNTIME (12V 15Ah SLA)	FIELD PURPOSE
Critical	Smartphone / Radio	5W – 10W	Local comms, emergency broadcasts, digital maps.
High	LED Work Lights	8W – 15W	Sub-surface illumination without drawing grid power or lantern fuel.
Moderate	USB Router / Modem	10W – 18W	Maintaining local intranet or short-window fiber link uptime.

PHASE 4: MAINTENANCE & SAFEGUARDS

- **The Voltage Watch:** Never drain a lead-acid battery below 50% voltage (roughly 11.8V to 12.0V) under load, or you will permanently degrade its capacity. LiFePO4 cells tolerate deeper discharge but require a compatible BMS (Battery Management System).
- **Solar Top-Off:** Keep a small 20W to 50W foldable solar panel on hand with a basic 12V charge controller to feed the box during prolonged grid outages.
- **Thermal Reality:** Heavy-duty inverters generate heat. Stick to direct 12V DC charging where possible to maximize efficiency and avoid wasting battery juice on DC-to-AC conversion.

Outpost 40 Directive: *When the transformer blows, silence is your best security measure. Let the neighbors run loud gas generators while your comms stay dark, quiet, and fully charged.*