

A bald eagle with a white head and neck and dark brown body is perched on a weathered wooden post. The background is a clear blue sky with some white clouds. The eagle is looking to the right.

# VVCPG

## October 12, 2024 Meeting

### Topics:

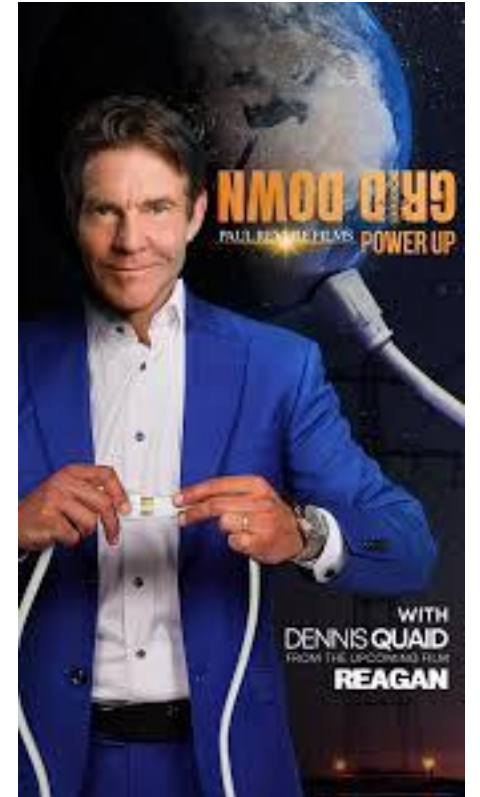
- Documentary: Grid Down Power Up
- EMP Shield - What is it, why do I need it and how to install it
- Solar Battery Backup - for well, fridge, microwave, security system, etc

# Documentary: Grid Down Power Up

Grid failure is a real and imminent threat, a devastatingly deadly occurrence leading to life-threatening shortages of heat, food, and water.

If protective measures are not taken, we will experience catastrophic failures leaving citizens in states of starvation, death, destruction, and darkness for months.

[Watch the documentary](#)





Quick 5 Minute Break



EMP Shield

# EMP Shield

***What is it, why do I need it and how to install it***  
*Protection for your HAM Radio Antenna, Vehicle, RV & Home*  
[Watch intro video](#)

Website:

<https://www.empshield.com/>



**BENEFITS OF**  
**EMP, CME, & Lightning Protection**

**POWERFUL EMP PROTECTION**  
All Phases an EMP (E1, E2, & E3) and up to 228,000 AMPS per phase. This includes electromagnetic pulses, coronal mass ejections, and lightning strikes.

**14 DAY MONEY BACK GUARANTEE**  
If you decide EMP Shield isn't for you, we offer a 14 day no questions asked return policy.

**BACKED BY A 10 YEAR WARRANTY**  
Backed by \$25,000 of insurance. If the device doesn't protect your electronics, we will cover the damage.

**INSTALLS IN 10 MINUTES OR LESS**  
We have designed the EMP Shield to install easily for any application. All devices have an easy to follow installation guide.



## EMP Protection

All Phases an EMP (E1, E2, & E3)



## Solar Flares

Up to 228,000 Amps



## Lightning Protection

100% Lightning Guarantee Backed By a \$25,000 Insurance Policy



**DHS**

United States Department of Homeland Security



**U.S. AIRFORCE**

United States Airforce



**FEMA**

Federal Emergency Management Agency



**FBI**

Federal Bureau of Investigation



**6 Months to Pay**  
0% Financing  
Interest Free Credit

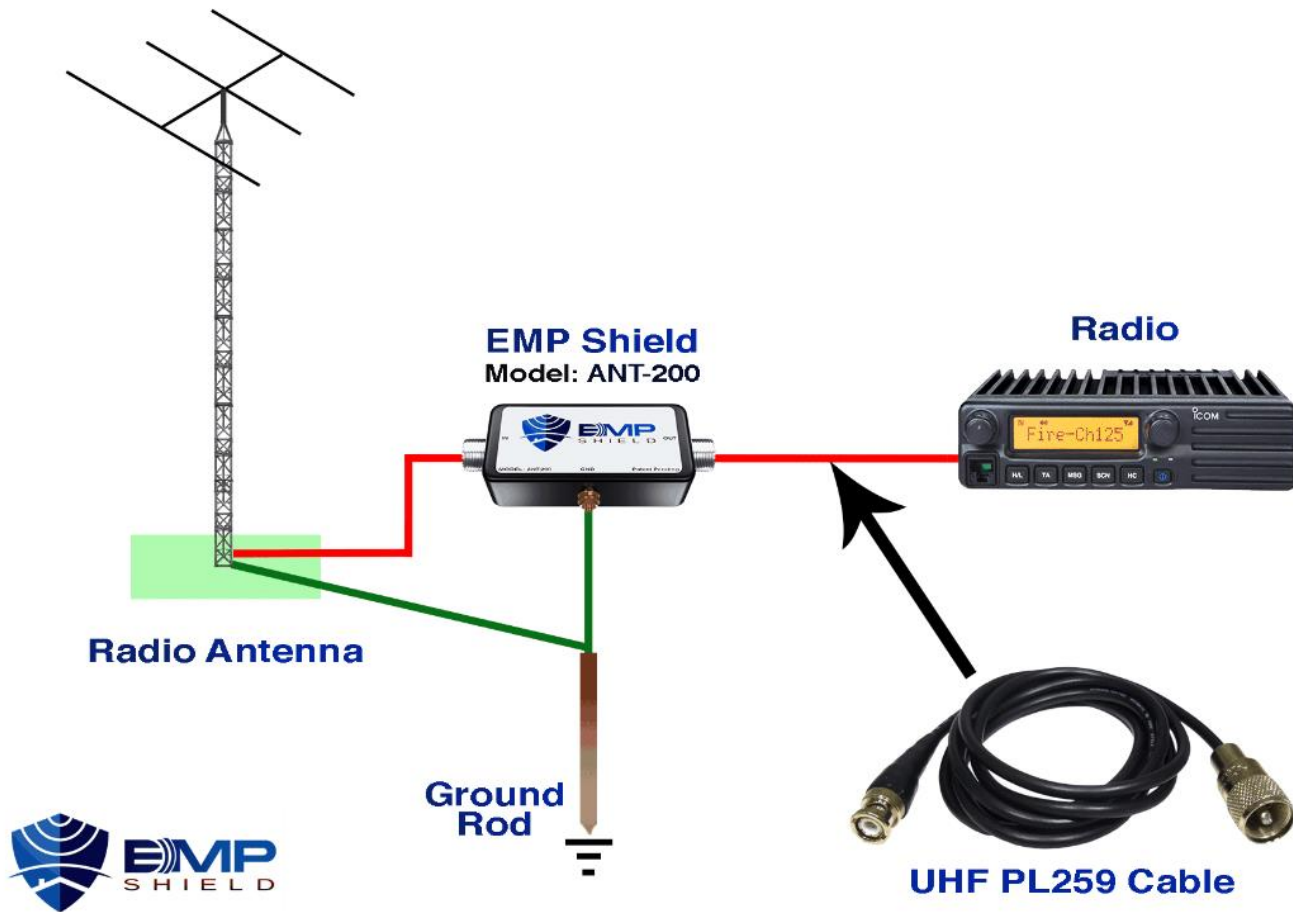
Available at  
Checkout

**Discounts:**

10% for being a VVCPG member  
Plus 10% if 60+ years old  
Call Nancy at 620-203-6202

**Website: VVCPG.ORG**

# EMP Shield – HAM Radio Antenna



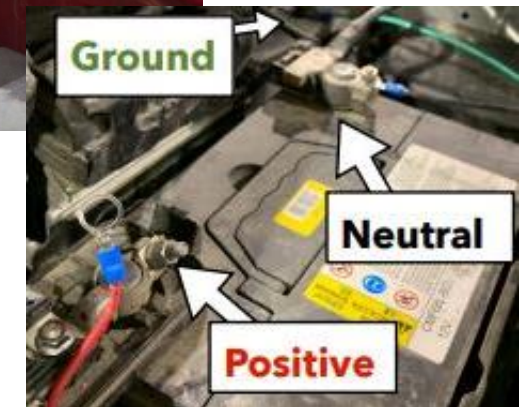
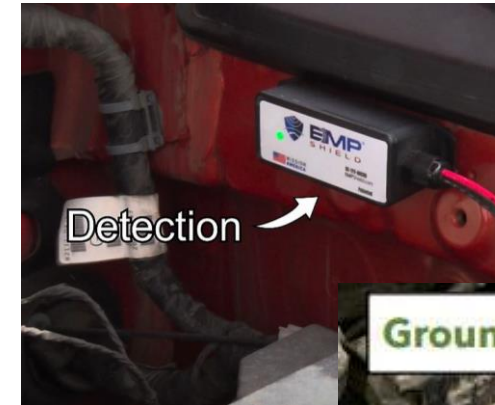
You should have a faraday bag for your HAM Radio!



# EMP Shield - Vehicle

## EMP Shield Vehicle Protection

- Perfect for engine compartments that have limited space
- Sized to fit SxS's, ATV's, Motorcycles, and other small mobile platforms in addition to your car or truck
- Includes 2x industrial Velcro fasteners to easily swap the EMP Shield between vehicles



### EMP Protection

All Phases an EMP (E1, E2, & E3)



### Solar Flares

Up to 228,000 Amps



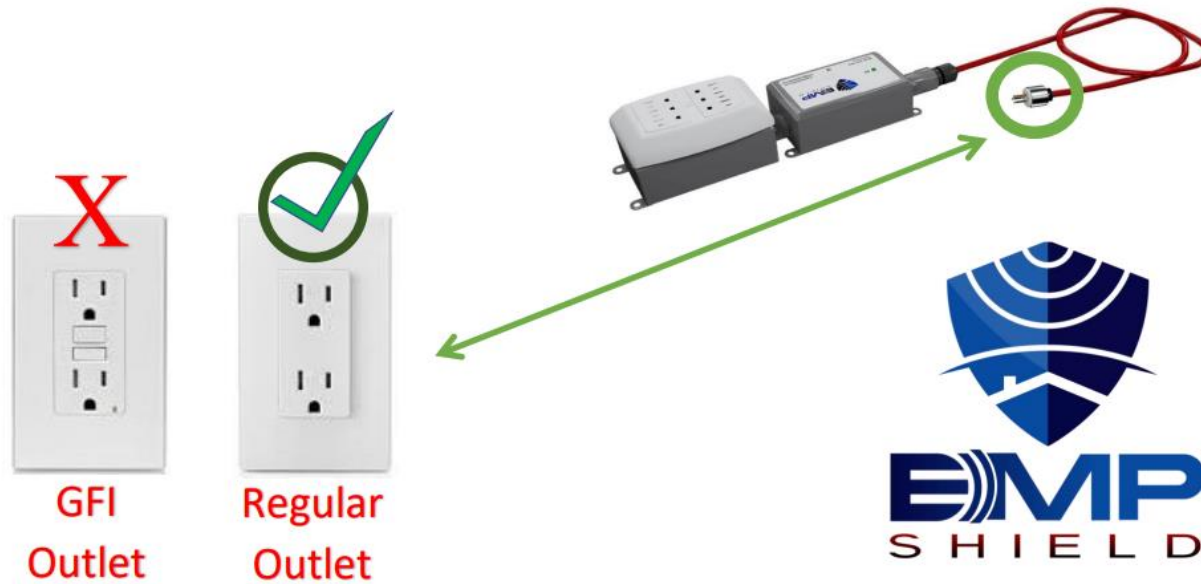
### Lightning Protection

100% Lightning Guarantee Backed By a \$25,000 Insurance Policy

# EMP Shield - RV

## Portable EMP Shield for Motorhomes/Travel Trailers

### Plug-in/Extension EMP Shield Installation



### EMP Shield for the RV Battery



Plug-in the EMP Shield into a Non-GFI outlet and the entire 110V electrical phase will be protected.



# EMP Shield - Home

## Two Models Depending on Your Breaker Box

Breaker box extends from the wall



Breaker box is flush with the wall



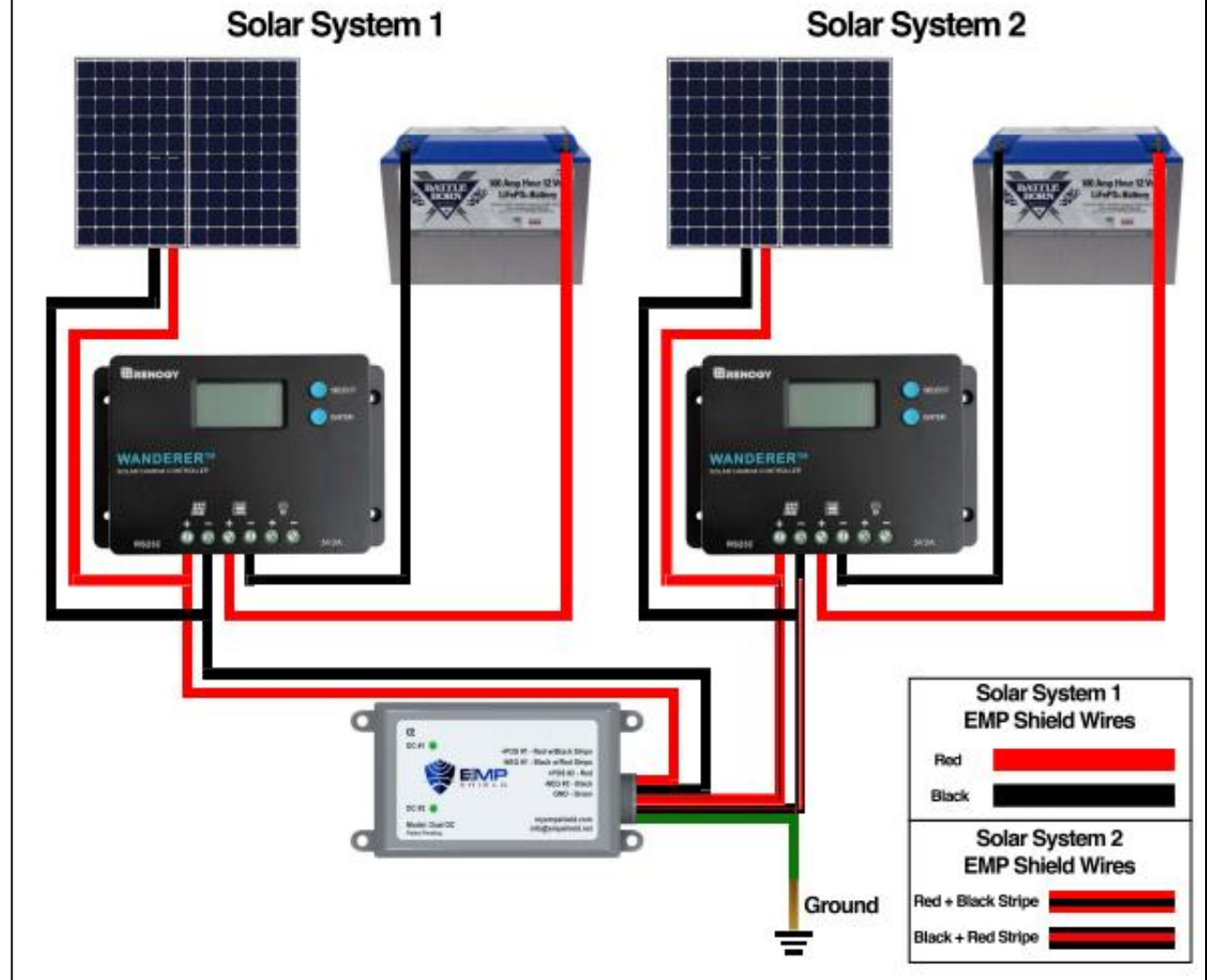
[Watch installation video](#)

# EMP Shield -Solar

## Solar Models

- EMP Shield – 48 Volt DC (DC-48V-W)
- EMP Shield 600 Volt DC for Large Solar Applications
- EMP Shield – DC 90-120 Volt Solar / Wind Systems (DC-90-120-W)
- EMP Shield – 24 Volt DC EMP Shield (DC-24V-W)
- EMP Shield – DC 220-300 Volt Solar Wind System EMP Protection (Single-DC-220-300-W)
- EMP Shield – Dual 220-300 Volt DC Solar Panel / Wind (Dual-DC-220-300-W)
- EMP Shield – Dual 90-120 volt DC Solar Panel / Wind (Dual-DC-90-120-W)
- EMP Shield – Dual 300-420 Volt DC Solar / Wind (Dual-DC-300-420-W)
- EMP Shield – Dual 48 Volt DC for Solar and Wind Systems (Dual-DC-48V-W)
- Inergy Flex AC EMP Protection Module (Plug-In 110V)
- EMP Shield DC Dual 1000 Volt for Solar and Wind Systems (Dual-DC-1000V)
- EMP Shield – Dual 24 Volt DC Solar EMP Shield (DC-DUAL-24V)
- **EMP Shield Dual DC MAX 600V For Large Solar Applications**
- EMP Shield – Single DC 300-420 Volt Solar / Wind EMP Protection (DC-300-420-W)
- Inergy Flex EMP Shield Protection Modules
- Inergy Flex DC EMP Protection Module (EC8 Plug)
- EMP Shield DC 1000 Volt for Solar and Wind Systems (DC-1000V)

# Dual DC Solar Installation





Questions About EMP Shield?



# Solar Battery Backup

# Solar Battery Backup

## 1. *Main reasons for wanting solar batteries?*

- a. Need access to water if SHTF - Our well is 650ft deep
- b. Water to drink & shower as well as put out fire if needed
- c. Pay less (or no) money to APS!

## 2. *Why choose solar batteries vs generator*

- a. Our home is all electric (no propane)
- b. Didn't want to store gasoline (it will eventually run out)

## 3. *Why did we choose Verde Solar Power*

1. They could work with our old solar panels and add more
2. Great customer service
3. Good pricing



### Contact:

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[dean@verdesolarpower.com](mailto:dean@verdesolarpower.com)

# Solar Battery Backup

## Original Solar Panels

- SunPower, which has filed for bankruptcy

## Why did we need additional solar panels

- SolorOne underestimated our need
- Produce enough energy to store in the batteries for use during peak hours & night
- If SHTF we can still run a good portion of the house on the solar batteries

## What products did we choose?

- Volt Batteries
- LuxpowerTek Inverters



# Solar Battery Backup

## Why Volt Bank Batteries

- Affordable
- NOT Lithium ion cobalt like Tesla
  - So they won't blow up!

## Why Two Inverters

- Each inverter can only hold 6 breaker panels, regardless of amps
- We wanted to have at least 12 breakers



# Solar Battery Backup

## What did we backup?

- Well Pump
- Fridge
- Microwave
- Security Cameras
- Flood lights & all of the ceiling fans
  - We will NOT have AC!
- Almost all of the outlets
  - Plug in appliances, like Coffee!
  - Medical equipment, like sleep apnea machines
  - HAM Radio
  - TV – can watch DVDs

## What we Did NOT backup!

- Range (takes 2 breakers)
- Water Heater (takes 2 breakers)
- Dishwasher
- Washer/Dryer
  - Installed a washboard sink in the laundry room





# Solar Battery Backup

## Installation – How long did it take

- Total time was about 1.5 months
  - Need APS approval
  - Need Yavapai County approval
- Installation stages
  - Panels were up within a week
  - Initial electrical work took about 2 weeks
  - Waiting for approvals – about a month
  - Final hook up





Dean Kaliakmanis  
President, Verde Solar Power



Questions?