

Presentation to DJSCS CAF HF Conference 04-08 November 2013

Pepro History

Pepro, LLC is a veteran-owned, small business located in Oil City, Pennsylvania, USA, providing state-of-the-art deployable radio sites without loss or failure since 1992.

- 1992: Develop first shielded enclosure to protect monitoring equipment for National Fuel Gas. (Public Utility)
- 1998: U.S. patent was issued for the shielded enclosure design.
 Delivered the first shelter for the public safety industry.
- 1999: Pepro shelters' shielding effectiveness certified by Lightning Technologies, Inc. and National Technical Systems.
- **Since 2000:** Pepro's product line has expanded to mobile radio sites, Micro sites, Platform towers, and Pan & Tilt Directional Antenna Mount, and Hybrid-powered Deployable sites.



Markets We Currently Serve

- Federal Agencies
 - US Forest Service
 - Bureau of Land Management
 - National Park Service
 - Department of Homeland Security (CBP)
- State and Local Government Agencies
- Commercial Vendors
 - Motorola
 - General Dynamics
 - Raytheon
 - SAIC

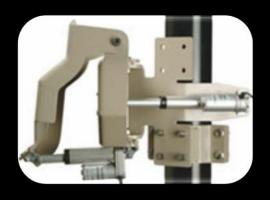


Our Core Product Lines

- Secure Mobile Units
- Integrated Stationary Shelters & Enclosures
- Pan &Tilt Directional Antenna Mount









Our Core Product Lines













Mobile Sites are a Flexible Communication Platform

Secure Deployable Radio Sites are versatile communication platforms:

- Scheduled Testing
- Temporary Communications
- Areas with Zoning Restrictions



Stationary Shelters& Enclosures

Easily transported and deployed:

- Ideal for remote applications
- Low environmental impact
- Quick installation





How Pepro Fits into the Market

- Pepro understands the most important challenges to agencies and companies looking to deploy a communications network for permanent, planned short-term, or emergency situations
- Our products are designed to eliminate concerns and simplify operations
- Choosing Pepro means you are protected from threats you foresee (lightning/EMI, EMP, RFI, PIM) and many you don't
- Pepro is in the field with customers, innovating to solve problems



Patented Technology

- The cornerstone of Pepro's patented enclosure technology is the Faraday cage principle
 - Protects the most sensitive electronic equipment from current, charge and interference
 - Protects communication networks from EMI, RFI, and reduces the effects of PIM from outside sources
- Pepro holds three (3) patents on the faraday cage design
- Patented articulated tower design
- One patent pending





Technical Specifications

Independent Laboratory-Tested Protection Levels

<u>Lightning</u> 1 million volts, 87,000 amps with

direct strike on enclosure with less than

10 micro joules penetration. (2011)

(Lightning Technologies, Pittsfield, MA)

RFI 70dB rating from 20 MHz to 3.29 GHz

(NTS Labs, Boxbourgh, MA)

EMI 50dB in Magnetic Field

(NTS Labs, Boxbourgh, MA)



Mobile Sites are a Flexible Communication Platform

- Trailers include manual or hydraulic leveling jacks
- 40, 45, 60, 90, and 95 ft un-guyed articulated tower
- Tower meets TIA/EIA 222-G wind load specifications
- Engineer drawings provided







Mobile Sites are a Flexible Communication Platform

- Includes integrated air conditioner
- Times Microwave LMR 600 RF cable
- 27 rack units of available equipment space per bay
- Integrated generator, & shore power connection, 10kw to 40kw









Scout





WMRS1000





WMRS1000

- Two 2.5 Ton Closed Loop Air Conditioners
- 40 kW Diesel Generator 140 Gal. Fuel Tank 3-4 Day Run Time
- 8' x 16' x 8' Tall Shelter Automatic Transfer Switch
- Protects against lightning, EMI, EMP, RFI
- Maximum Equipment Load 26,300 Watts
- 200 Amp Load Center Meltric shore power receptacle
 95' Unguyed Articulated Tower
 - Hydraulically Raised
 - Meets US TIA/EIA-222-G



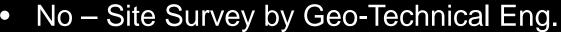
Secure Stationary Radio Sites

Crane & helicopter deployable.

- Ideal remote locations
- A low environmental impact
- Very little maintenance



Fly-In Remote Sites



- No Foundation or concrete pour
- No Environmental or Archaeological study
- No Excavation Equipment
- No Certified climbers required









Fly-In Remote Sites



Patented Faraday Cage Technology provides grounding on all terrains

Patented Faraday Cage Technology protects against RFI, EMI, and EMP

Surge protection located in Power Entry Module



























Permanent Sites

Patented Faraday Cage Technology provides:

Increased grounding capabilities
Protection against lightning, EMI, EMP, & RFI
Protection against the effects of outside PIM











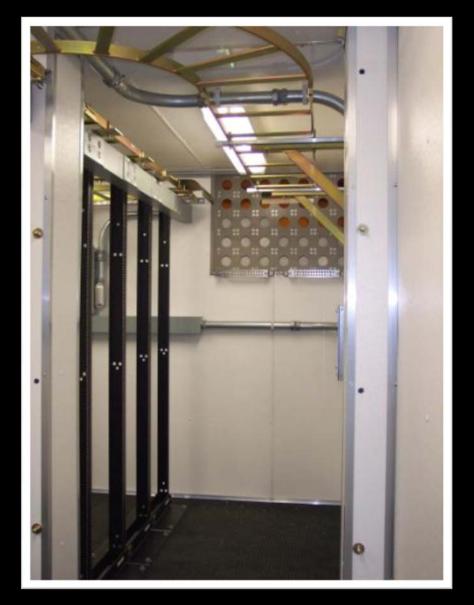














Permanent Sites

- Average site installation time is less than a day
- Closed loop redundant air conditioning







Accessories



Pan & Tilt

Directional Antenna Mount

The Pepro PT300 & PT700 are specifically designed for the wireless communication industry.

- Faster, Safer Adjustments
- Tuning Directional Antennas Has Never Been Easier

Typical applications are:

- Point-to-point bridges
- Microwave Antennas

Beam antennas

And other directional antennas



Pan & Tilt

Directional Antenna Mount



- Four bolt mounting system
- 60° of Pan & 10° of Tilt
- Positive positioning via electric motor
- Lightweight (15 lbs.) aluminum design
- Stainless steel hardware





Pan & Tilt Directional Antenna Mount

- Available for AC or DC operation
- Water & Dust resistant connections
- Watertight handheld controller
- Optional wireless handheld controller





Value Proposition

Reduces time to adjust antenna

Reduces liability

Reduces equipment downtime

Reduces training time and manpower

Reduces cost

Increases safety





Requirements for Field Application

- Type of antenna
- Operational with AC or DC power
- Type of tower for mounting purposes
- Height & location of antenna





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