## ALL-HAZARDS EMP PROTECTION
## For SYSTEMS, NETWORKS,FACILITIES and ROOMS

Civilian critical infrastructure can be composed of rooms, systems, facilities, campuses, and networks spanning regions or continents. An overall design approach to business continuity will require different levels of protection depending on the importance of the system element being protected and its vulnerability. Instant Access Networks, LLC devised the following way to show ranges of protection that may be relevant to various elements (power, data, communications) in a 4 level system-wide protection method where level three meets or exceeds various MIL SPECs for EMP and TEMPEST requirements:

| IAN LEVEL | Base Shield | Compare to MIL SPEC 188-125 | | |
|---|---|---|---|---|
| | | 1KHz- 10 MHz | 10 MHz-1GHz | 1GHz-10GHz |
| | | (ea 20 dB is a factor of 10) | | (-10 series |
| EMP 4 | 140 dB | 60dB above MIL SPEC to 1KHz | 140 dB (60 dB above MIL SPEC) | 140 dB |
| EMP 3 | 100 dB | 20dB above MIL SPEC to 1KHz | 100 dB (20 dB above MIL SPEC) | 100 dB |
| EMP 2 | 60 dB | 20dB below MIL SPEC to 1KHz | 60 dB (20 dB below MIL SPEC) | 60 dB |
| EMP 1 | 30 dB | 50dB below MIL SPEC to 1MHz | 30 dB (50 dB below MIL SPEC) | 30 dB |

IAN has produced and tested products that meet each of these ranges including transportable pods or rooms and mobile command trailers that exceed EMP levels 3 and 4 for radiated pulse and injected pulse at level 3. These are EMP-safe inserts that fit into standard cargo containers or trailers and can come with biological/chemical/radiological air filter systems making this an all-hazards safe system.

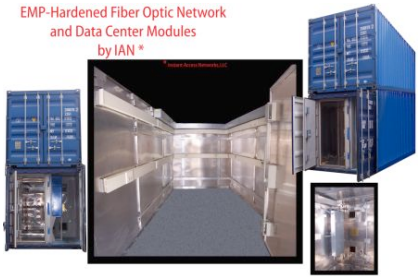
The 32 feet long EMP-safe mobile command center is light enough (under 14,400 lb) to be pulled by a pick-up truck with a driver NOT required to have a commercial driver's license.

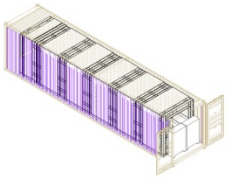
**SPECIFICATIONS for EMP-PROTECTED TRANSPORTABLE PODS**

Instant Access Networks, LLC (IAN) produces electromagnetic pulse (EMP) protected rooms that insert into standard ISO cargo containers. The following specifications indicate the dimensions and weights of the units including the cargo container shells. The EMP protection has been tested without consideration of incidental protection that may be provided by the cargo container shell.

| Transportable PODS | | | | | | |
|---|---|---|---|---|---|---|
| **LEVEL** | **LENGTH** | **EXTERNAL SIZE** | **INTERNAL SIZE** | **SHELL WT** | **INSERT WT** | **COMBINED WT** |
| | | | | | | |
| EMP 4 | 20' | 8'X20'X8'6" | 6'51/2"X varies* X7'1/2" | 4800 lbs | 4900 lbs | 9700 lbs |
| EMP 3 | 20' | 8'X20'X8'6" | 6'9 1/2"X varies* X7'41/2" | 4800 lbs | 3600 lbs | 8400 lbs |
| | | | | | | |
| EMP 4 | 40' | 8'X40'X9'6" | 6'51/2"X varies* X8'1/2' | 8400 lbs | 8575 lbs | 16,975 lbs |
| EMP 3 | 40' | 8'X40'X9'6" | 6'91/2"X varies* X8'41/2" | 8400 lbs | 5800 lbs | 14,200 lbs |
| | | (others possible) | (internal length varies) | | (wt is approx) | (wt is approx) |

The pods and trailers make use of an IAN designed common ground plane wall supporting all EMP–safe electrical connections and penetrations. They can include EMP-safe renewable energy systems and generators for back-up or off-grid needs. In each of these pictures, examples of the common ground plane and penetration panels can be seen. Pods can be integrated data centers, networks or factories.



| TRANSPORTABLE PODS | | | | |
|---|---|---|---|---|
| **COMPONENTS** | **LEVEL** | **DESCRIPTION** | **DIMENSIONS** | **MISC** |
| | | | | |
| Outer Door | 3 (system) | Steel | 35 1/4" x 7' | Single layer system |
| Inner Door | 4 (system) | Aluminum | 34 1/4" x 6' 6 1/2" | Dual layer system |
| Air Vents | 3 or 4 | EMP protected wave guides | 10" square | 2 or more |
| Power Filter | 3 or 4 | 225 or 400 Amp triple phase each | Varies | 1-3 filters per module |
| Fiber Optic Pipe | 3 or 4 | Allows passage of fiber optics | 1" wide or larger | 1 or more |
| Penetration Panel | 3 or 4 | Brass panel for special connections | 12" square | 1 or more |
| Common ground | 3 or 4 | Ground plane wall for all connections | Varies | Meets pulse injection tests |
| Optional Generator | 2-4 | 12.4 kw Diesel Generator or larger | Varies | With transfer switches |
| Electric Distribution | 3-4 | 200 amp distribution panel prewired | Varies | Can be higher cap |
| Electric System | 3-4 | Electric outlets and RF conduits | Along 3 walls | Prewired conduits |
| Static flooring | 3-4 | Static proof rubber flooring | Full room | Color options |

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