



# RSI GLOBAL COMMUNICATIONS GROUP

*CONNECTING YOU to a world of solutions...*



## **MWAP** System

**Mobile Wireless Access Platform**

Manufactured by **RSI** Global Communications Group, LLC

**35 KW**  
**Solar Generator**

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# SYSTEM OVERVIEW

## VEHICLE CONFIGURATION:

The MWAP Solar Generator platform is built on a 5' x10' custom engineered 3500# GVWR single axle commercial trailer. Each MWAP trailer includes:

- Two (2) 235 Watt Solar Panels.
- Four (4) 210 AH 12 VDC AGM maintenance free batteries 35 KW Power Capacity
- Custom heavy Duty T framed (2) compartment equipment enclosure
- 120 VAC, 600 Watt inverter with auto off
- One (1) 45 Amp Solar Charge Controller
- 24 VDC to 48 VDC Converter
- Front mounted Utility Box with lock
- One grounding system with Integrated lightning suppression
- Aluminum transit covers for Solar Panels
- Four (4) leveling jacks
- Spare tire and wheel with wheel locks on all wheels

- One 10m (33ft) aluminum mast (Manual deploy) with guying system
- 5 ports 10 - 100 -1000 Industrial Ethernet switch

## **SYSTEM FUNCTION:**

The **MWAP** System is a 35kW solar generator designed to provide a secure and robust private wireless LAN system for transmission of streaming video or data files from a remote network system back to a central command location.

The system can be configured and deployed in three distinct configurations to accommodate short, medium and long distance communications links and can provide reliable 6 ~ 54 MBS data transfer over 50km if required by utilizing a combination of ALPHA and BETA communications trailers described in more detail on the next page. Higher data rates up to 130 MBS are available. All of the trailers are fully self-contained solar powered and ruggedized for remote location use.

IP based data is provided to the first Alpha trailer either by hard wired Ethernet connection or by 2.5GHz ISM Wi-Fi wireless mesh signals from the data source.

The **Alpha** unit then processes and authenticates the signal and if security protocols are acceptable transmits the signal via 5.0GHz backhaul to the next **Beta** unit for distribution.

The first in the network will always be an Alpha unit or fixed location which will provide either hardwired Ethernet or 2.5GHz ISM wireless to the MWAP.

*NOTE: Data rates are determined by link lengths, radios and local topography and may vary from link to link.*

## **TRAILER TYPES:**

There are two (2) distinct trailer types in the **MWAP** system design. They are best described as an “**ALPHA**” trailer and a “**BETA**” trailer.

### **ALPHA TRAILER:**

- Forms a wireless mesh network between remote nodes outside the MWAP
- Designed specifically to support a multi-radio platform to optimizing system-level network performance.
- Dynamically optimizes traffic routes between nodes for high network resiliency and high system capacity.
- Self-heals from interference or outages, reducing management costs.
- Optimal Parent Selection scans all available channels to ensure that the mesh optimizes network capacity.

- Exclusion listing provides exponential backoff and advance intelligence at the access point to exclude as a parent any access point through which a link to the controller cannot be established.
- Bridges remote networks over wireless in a point-to-point or point-to-multipoint configuration, eliminating leased lines or providing an alternative backhaul.
- Allows remote peripherals, such as security cameras, to be bridged to the network.
- Dual-radio option provides separate channels for the mesh infrastructure and client access, enabling pico-cellular design, minimizing system interference, and delivering high system capacity.
- Single-radio option is available for environments that require a single band solution.
- Ruggedized Enclosure Maximizes network uptime through reliability in severe weather conditions including rain, lightning, wind and vibration. Includes lightning protection.

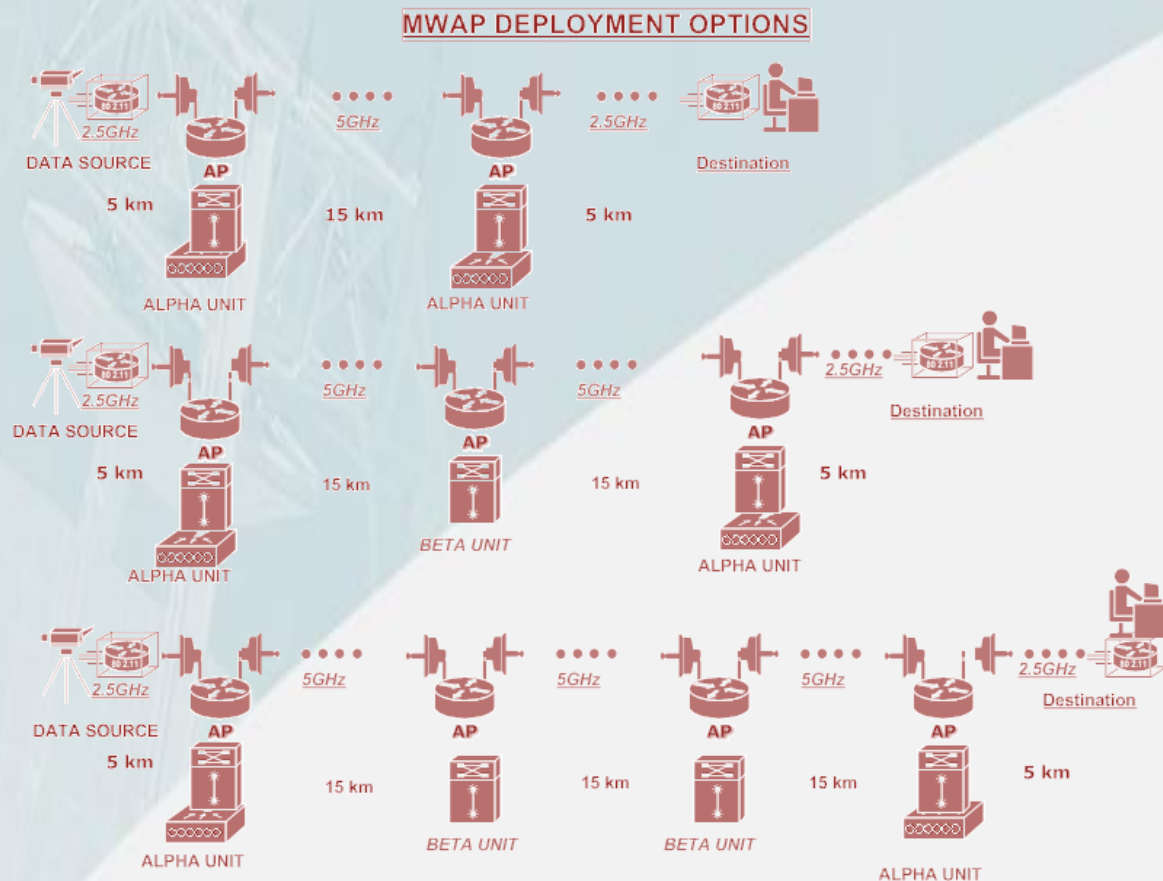
## **BETA TRAILER:**

The **BETA** trailer is designed to act as a backhaul repeater only and can be used between to extend the backhaul distances up to 20 km per trailer depending on terrain and trailer height.

## MAST AND 2.4 AND 5.0 GHZ ANTENNA SYSTEMS:

The **MWAP** Trailer is equipped with a 33ft (10.0m) mechanical pushup mast and antenna candelabra for two antennas.

The Alpha units can be equipped with one Omni directional 2.4GHz 15dBi antenna and one 4.9 ~ 5.8GHz, 25dBi linear polarized wire mesh antenna. The Beta units can be equipped with two 4.9 ~ 5.8GHz antennas



The antenna system is a flat panel and is both Horizontal or Vertical polarized. The 5 GHz band is for back haul operation only.



## **PRODUCT BENEFITS:**

- A CLEAN AND GREEN PRODUCT
- NO FUEL REQUIRED WITH VERY LOW COST OF OPERATION
- NOISE & EMISSION FREE WITH SILENT OPERATION FOR COVERT USE
- PROVIDES 24 - 48 VDC CLEAN & REGULATED DC VOLTAGE
- LIGHT WEIGHT LESS THAN 3000 LB [1360KG] TOWED BY SUV OR PICKUP TRUCK
- SMALL IN SIZE 13 FT [3.9M] LONG
- 12 MONTH WARRANTY (5 YEARS ON PV PANELS)

## **AVAILABLE OPTIONS:**

- 10 ~ 16M PNEUMATIC MAST WITH DC COMPRESSOR
- REMOTE CONTROLLED PAN & TILT UNITS
- CHOICE OF COLORS AND CARC PAINT
- WIRELESS RADIO SYSTEMS, POINT TO POINT FULL POWER MICRO WAVE LINKS
- HI GAIN 2.4 AND 5.0 GHZ ANTENNAS OMNI OR DIRECTIONAL



- AUTO START LOW NOISE DIESEL OR GASOLINE GENERATOR FOR CHARGING BACKUP
- ONBOARD BATTERY CONDITION MONITORING WITH REMOTE MONITORING.
- REMOTE UNIT SURVEILLANCE AND TAMPERING ALARM
- ADDITIONAL 230W PV PANEL
- ADDITIONAL 12VDC AND 5VDC REGULATED DC TO DC CONVERTER
- BGAN SATELLITE RADIO FOR REMOTE COMMUNICATIONS
- VSAT SATELLITE SYSTEM FOR IP BACKBONE IN REMOTE AREAS
- SATELLITE BANDWIDTH C, KU OR Ka BAND
- OFF ROAD MUD AND SNOW TIRES
- MAST OBSTRUCTION OR POWERLINE WARNING SYSTEM
- ADDITIONAL BATTERY CAPACITY (REQUIRES ADDITIONAL PV PANEL(S))