

# microwave photonic systems

MA-2158-XX-AS

## Dual Redundant GPS Antenna / Network Splitter Subsystem



### Description

The MA – 2158/GPS; is a “Dual Redundant” GPS Antenna / Network Splitter Subsystem that provides the capability to share a common GPS antenna among multiple GPS Receivers while also offering failover redundancy switching of the GPS active antenna. Figure (1) offers an interconnection diagram of the basic redundant GPS antenna / splitter configuration.

The MA – 2158/GPS can be controlled and monitored over an Ethernet (SNMP) interface providing constant status of critical performance parameters of the Antenna / Network Splitter Subsystem. I/O parameters include Antenna bias current, Temperature, Power Supply voltage and Primary / Auxiliary switch status. Support for GPS antenna LNA bias current is available. Front panel has a local on-board LED alarm, Power-On indicators, and local monitoring and control display. The receiver interface emulates an antenna load on each port to the GPS receiver, negating false antenna bias current faults. Alarms indications are also delivered via Ethernet and SNMP. Dual Antenna Inputs will automatic sense and switch GPS input to the active path for minimal downtime.

The MA-2158-XX-AS GPS Splitter is comprised of up to thirty two independent RF GPS channels enabling connectivity configuration of up to thirty two separate GPS receivers.

The MA-2158 GPS Splitter can be customized in numerous distribution configurations, to accommodate any custom requirements. In addition, the subsystem provides a high performance, cost-effective solution for splitting GPS signals.

Contact MPS directly for specific design applications and technical specifications.

### Market Applications

- 4G/LTE Node Synchronizations
- Cellular E911 Augmentation
- National Contingency Centers
- Power Generation Substations
- EMC Test Labs
- Aviation Hangers
- Naval Shipboard & Maritime Vessels
- Oil, Gas & Mining Operations
- Rail & Tunnel Complexes

### Features & Options

- Dual Redundant Antennas
- Automatic Antenna Failover Switch
- Frequency Range: 1.1 to 1.6 GHz (L1, L2, Glonass, Galileo, ...)
- DC Bias Power for each Antenna
- AC and DC power options
- Multiple RF Splitter Configurations:
- Internal GPS Receiver Bias Load
- RF Unity Gain on each port
- High Isolation: > 30 dB
- Local Monitors: LEDs
- Remote Monitors: Relay Closure & Ethernet, SNMP
- 3 Year Warranty

### Packaging Options

- Wall Mount
- Rack Mount
- Indoor or Outdoor Roof Top
- Portable Transit Case for Emergency Response Scenarios

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## Dual Redundant GPS Antenna / Network Splitter Subsystem

### System Specifications

#### System Parameters:

Frequency Range	1200 - 1600 MHz	
Bandwidth	400 MHz	
Input / Output Impedance	50 $\Omega$	
Overall Gain	Unity - 0 dB*	*(optional gain available)
VSWR	2.0 : 1	
Power Consumption	<10 Watts	
AC Power	Auto Ranging, Universal AC 120-260 VAC	
DC Power (optional)	+18 - 54 VDC	
Operating Temperature	-20° C to +60° C	
Alarms Indications	Dry Contact Closures, Ethernet, SNMP	
Enclosure	19 inch 1U Subrack Receiver	
Humidity	10 to 95% non-condensing	
Dimensions (W x H x D)	Rack-mount: 19 x 1.75 x 21	
Weight (approx.)	Rack-mount: < 15lbs.	
Splitter Configurations	1 x 2, 1 x 4, 1 x 8, 1 x 16, & 1 x 32	
RF Connector	N-Female	



MA-2158-08-AS-N



MA-2158-0-AS-N

#### Alarms:

Antenna bias Current Monitor DC Input  
 Power Supply Voltage Status  
 Switch Position: Primary or Auxiliary  
 Antenna Short Circuit Protection  
 Unit Temperature

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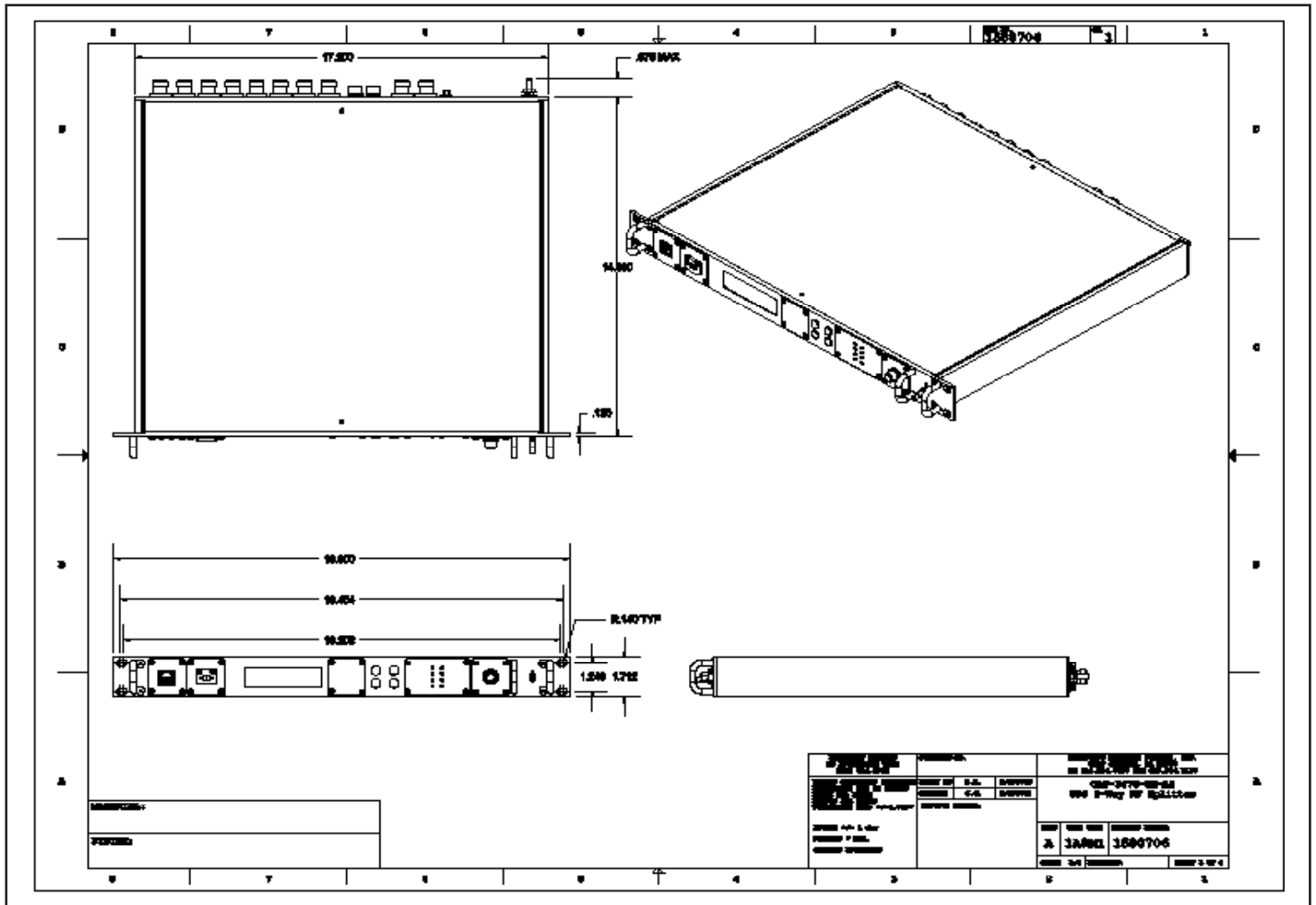
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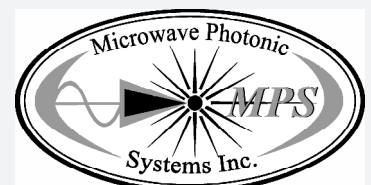
## Mechanical Dimensions:



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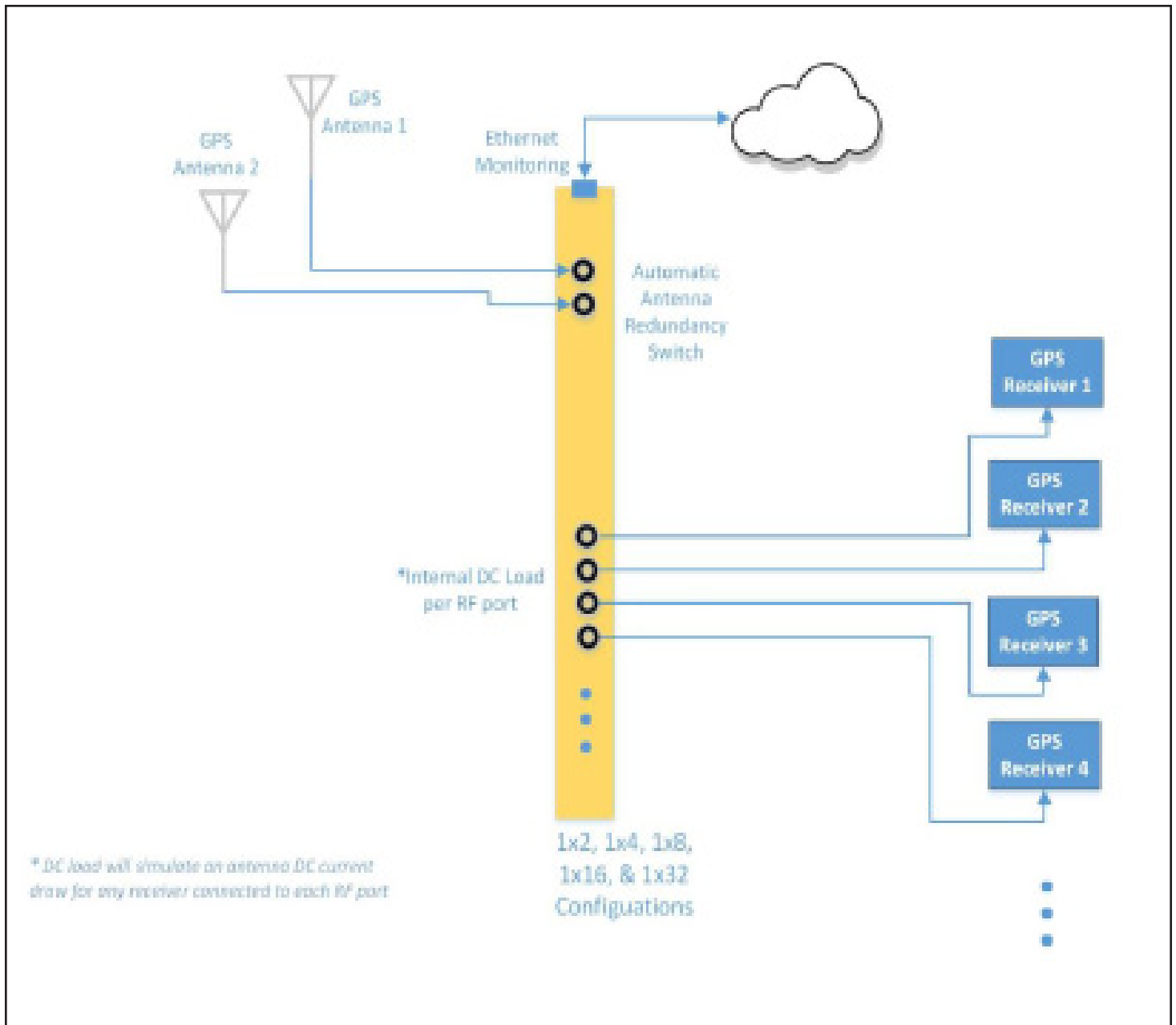
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# Dual Redundant GPS Antenna / Network Splitter Subsystem

Deployment Block Diagram (Figure 1):



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