

## GPS over FIBER (Single or Dual Channel)



Remote Unit



Base Unit

### INTRODUCTION

AIRORLITE's GPS over Fiber System send GLOBAL POSITIONING SYSTEMS (GPS) signals to locations where telemetry or synchronized timing is required but not easily obtained. This method of optical signal processing eliminates the need for large coaxial cables, booster amplifiers, and other ancillary equipment. Systems are available in single or dual channel models with AC or DC power options. A single-channel GPS over Fiber system, Model GPS-1001, consists of the following:

- (1) Remote Unit (GPS1001T)
- (1) Base Unit (GPS1001R)
- (1) AC Power Supply (GPS1001PS) - *optional*

When redundancy is required, a dual GPS over Fiber system is recommended. The GPS1002 Consists of a base unit and a remote unit with two pairs of Fiber Optic Transmitters and Receivers.

### OPERATION

The GPS1000 System is put In-Line between a GPS Antenna and Receiver. The remote unit receives GPS satellite signals from the antenna and converts it to an optical signal which is

transmitted through a single-mode fiber-optic cable. The base unit detects the optical signal and converts it back to a radio frequency (RF) signal that is useable by any GPS receiver.

### APPLICATION

Ideal for any application that requires telemetry or synchronized timing. Cell Sites, Trunked Radio Systems, Security and SCADA Systems normally all require some form of synchronized control.

### ADVANTAGES

AIRORLITE's GPS1000 Systems offer:

- Elimination of high construction costs and maintenance costs of coax cable
- Low-loss interconnection
- Lightning isolation while eliminating cable leakage problems
- Minimum time delay
- Interface to any GPS receiver
- Interface to any GPS antenna

# GPS1000 GPS over FIBER (Single or Dual Channel)

SPECIFICATIONS	
Frequency Range	1565.42 - 1585.42 MHz
Bandwidth	20 MHz
Noise Figure	< 2.2 dB
Gain	20 dB nominal, excluding antenna
Delay	5 μsec/km of fiber optic cable
Power	-48 VDC, 500 ma (optional)
Impedance	50 ohms nominal
VSWR	< 1.5:1 max
Power Consumption	< 10 watts
Enclosures	Base unit: 19" rack mount
	Remote unit: 12" x 10" x 5"
Weight	Base unit: <10 lbs.
	Remote unit: <15 lbs.
Connectors	Optical: FC/APC
	RF: Type N Female (on Remote)
	SMA Female (on Base)
Cable	9/125 μ single mode
Operating Temperature	-20 °C to +75 °C

Model Numbers	
Single Channel System	GPS1001
Dual Channel System	GPS1002

OPTIONS	
GPS Antenna	GPS1001A
AC Power Supply	GPS1001PS

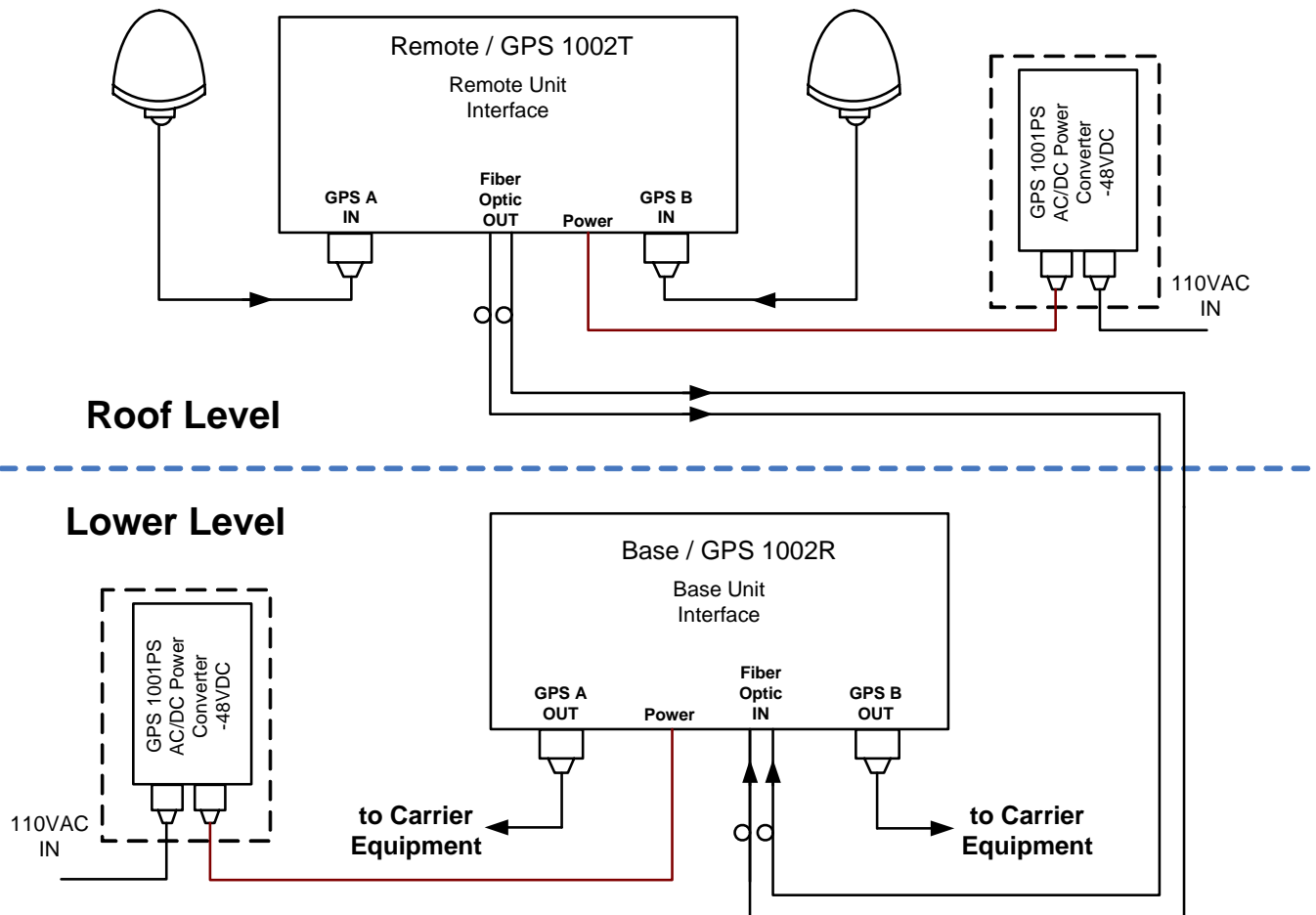
*NOTE: Specifications are subject to change without notice*



GPS1001A



GPS1001PS



Typical Dual GPS Over Fiber Configuration (GPS1002)