

# GPS L1 Inline Antenna Amplifier



GPS L1 Inline Amplifier is a simple and elegant solution to extend the GPS antenna length of 300 feet (91 m).

## Key Features

- Extended GPS antenna cable length upto 300 feet (91 m)
- Fits in line with the antenna cable
- No external power source required
- Simple installation

Cable length is a common source of signal loss between a GPS antenna and the receiver. As with any electromagnetic radio wave, GPS signals become attenuated as they are passed through electrical cable. The amount of signal loss depends on the type and length of the cable used.

In some Microsemi GPS receivers, when the antenna cable length exceeds 150 feet, signal strength can drop below the receiver's ability to track the signal. The inline amplifier mitigates this problem by amplifying the GPS signal and permitting a longer antenna cable. The inline amplifier attaches directly in line with the antenna cable and uses the same power as the antenna; no extra wiring required.



Figure 1: Inline Antenna Amplifier Kit

# GPS L1 Inline Antenna Amplifier

## Specifications

### General Information

#### Power

- Input voltage is from 4 to 28 VDC. Current draw is 10 ma at 4 VDC, 20 ma at 28 VDC. Power to the inline amplifier is provided from the GPS receiver

#### Size

- 3.770 inches in length
- 0.605 inches in diameter

#### Gain

- $20 \pm 2.0$  dB

#### Noise

- Noise figure is  $< 3$  dB

#### Connectors

- TNC type female, both ends

#### Maximum Cable Length\*

- 300 feet (91 m)  
 \*Installation requirements: The cable length extension is subject to the following requirements. Any deviation from these specifications may reduce the extended cable length.
- Belden 9104 cable
- No sharp bends in the cable between the antenna and the GPS receiver.
- There are a minimum number of connectors in the cable.
- Ideally only one unspliced cable on either side of the amplifier.
- The amplifier must be installed closer to the GPS antenna than to the GPS receiver. The amplifier can fit protected inside the mounting mast provided with the GPS antenna.
- Antenna cable run in excess of 300 feet require the Microsemi GPS down/up converter in place of the inline amplifier described in this document.
- Microsemi GPS equipped products come standard with 50 feet of cable. Longer lengths or additional cables may be purchased separately.

#### CE Safety

- 2006/95/EC Low Voltage Directive (LVD)

#### CE Electromagnetic Compatibility

- 2004/108/EC Electromagnetic Compatibility (EMC) Directive  
 EN55022 (2010) EMC Emissions for ITE, Class A  
 EN55024 (2010) EMC Immunity for ITE

#### CE RoHS

- Restriction of the Use of Certain Hazardous Substances (RoHS) Directive (2011/65/EU of the European Parliament and Council). These units are RoHS compliant and Category 3 (IT and Telecommunications Equipment) as defined by 2011/65/EU Annex 1 and does not use the lead in the solder exemption.

### Options

- Extended cable (200 ft./60 m)
- Extended cable (200 ft./75 m)
- Extended cable (275 ft./82.5 m)
- Extended cable (300 ft./90 m)
- GPS L1 GPS Antenna Splitter
- GPS Lightning Arrestor Kit w/25 ft. (7.5 m) cable
- GPS Lightning Arrestor Kit w/50 ft. (15 m) cable

### Part No.

- 340-200-5
- 340-250-5
- 340-275-5
- 340-300-5
- 150-711
- 150-709
- 150-710

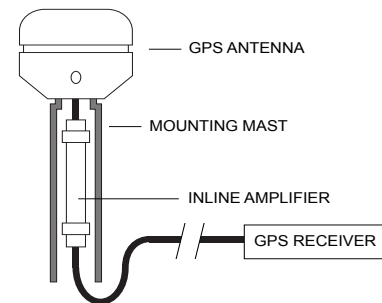


Figure 2: Diagram of Antenna Amplifier

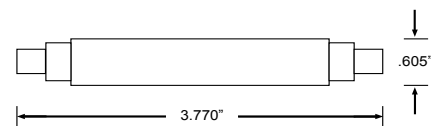


Figure 3: Dimensions of Antenna Amplifier

## Ordering Information

- Part Number 150-200 GPS L1 Inline Antenna Amplifier (Contact Microsemi for prices and availability)

## Product Includes

- GPS L1 inline antenna amplifier, 3" adapter cable with TNC (f) terminations to connect amplifier to antenna



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