

# 58530A

## GPS L1 Bandpass Filter



The Symmetricom 58530A GPS L1 Bandpass Filter protects GPS receivers from noise and interference near the L1 carrier. The filter's narrow bandwidth and steep rolloff preserve the GPS signal while attenuating nearby signals.

A passive device, the 58530A does not require power. The unit is designed to pass up to +13 Vdc to the GPS antenna.

### Added Interference Protection

Because of crowded urban rooftops, GPS antennas sometimes must be co-located with transmitting antennas, which can interfere with the GPS signals. In most cases, the filter built into the 58532A GPS Antenna significantly reduces or eliminates the offending signals. Whenever GPS reliability is of the utmost importance or the urban environment has known interference sources, each installation should include a 58530A GPS L1 Bandpass Filter near the GPS antenna.

Antenna systems with long cable runs in urban environments will benefit from a second 58530A. This 58530A should be installed near the GPS receiver to attenuate any interfering signals picked up by the antenna cable.

## Added Lightning Protection

Electromagnetic fields caused by nearby lightning strikes can induce surge voltages in the antenna cable, damaging the antenna. A diode protection scheme in the 58530A helps direct some of this surge energy to ground before it reaches the antenna. For full lightning protection, however, Symmetricom recommends the 58538A and 58539A lightning arrestors.

## Durable and Easy to Install

The new 58530A GPS L1 Bandpass Filter is more durable and easier to install than its predecessor. Designed to be compatible with the 58532A GPS Antenna, the 58530A features a more rugged package and a streamlined installation scheme. The 58530A's cylindrical shape allows it to fit inside the mounting mast of the 58532A GPS Antenna for shelter from the environment. To facilitate installation, a Type-N plug to Type-N adapter is provided to attach the 58530A directly to the output connector of the 58532A. This allows the 58530A to be installed close to the antenna for best system noise margin.

## Specifications and Operating Characteristics

The 58530A GPS L1 Bandpass Filter is rugged, waterproof, and corrosion resistant so it can be installed in either indoor or outdoor environments. Option AUB with the 58530A provides a mounting bracket for convenient mounting to wood, masonry, or a pole. Option AUB is useful when installing the 58530A near the GPS receiver.

Shrink tubing is also provided with the 58530A to protect connector joints from moisture. Use of the shrink tubing inside the 58532A mounting mast provides additional moisture protection, but is not necessary and can be omitted to further simplify installation.

For the convenience of users who buy cable in bulk and cut it to suit their needs, Option 800 provides two Type-N Plug connectors (sized for LMR-400 cable) for terminating cable ends to mate to the 58530A.

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ELECTRICAL	
Input/Output Impedance	50Ω
Bandwidth (-3 dB)	1575.42 MHz (L1) ±5 MHz
Attenuation	>7 dB @ L1 ±35 MHz >30 dB @ L1 ±140 MHz
Insertion Loss	<3.5 dB (2 dB typical)
VSWR	1.5:1 (typical)
Maximum dc Passthrough Voltage	+13 Vdc

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PHYSICAL	
Connectors	2 Type N Jacks
Dimensions (including connectors)	32 mm D × 110 mm L
Weight	440 g

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ENVIRONMENTAL	
Operating Temperature	-40°C to +80°C
Vibration (58530A coupled directly to 58532A):	
Operating	5-500 Hz, 0.04 g 2 /Hz
Waterproof	IP 66, according to IEC 529
Corrosion	Saltspray test according to MIL-STD-202, Method 101, Condition B

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ORDERING INFORMATION: (CONTACT SYMMETRICOM FOR PRICING AND AVAILABILITY)

58530A GPS L1 Bandpass Filter

Option AUB Mounting Hardware

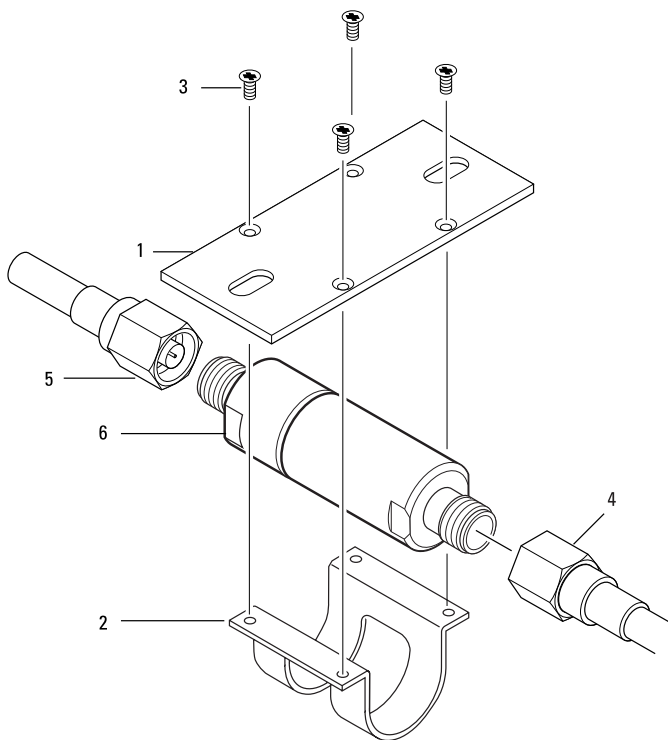
Option 800 Type-N Plug connectors (2)

for LMR-400 cable

For more information:

Dependable Accessories for Your GPS Installation — Brochure

Designing Your GPS Antenna System — Configuration Guide



Items 1, 2, and 3 are supplied in Option AUB Mounting Hardware. Items 4 and 5 are supplied in Option 800 Type-N plug connectors (2) for LMR-400 cable. Item 6 is the 58530A.

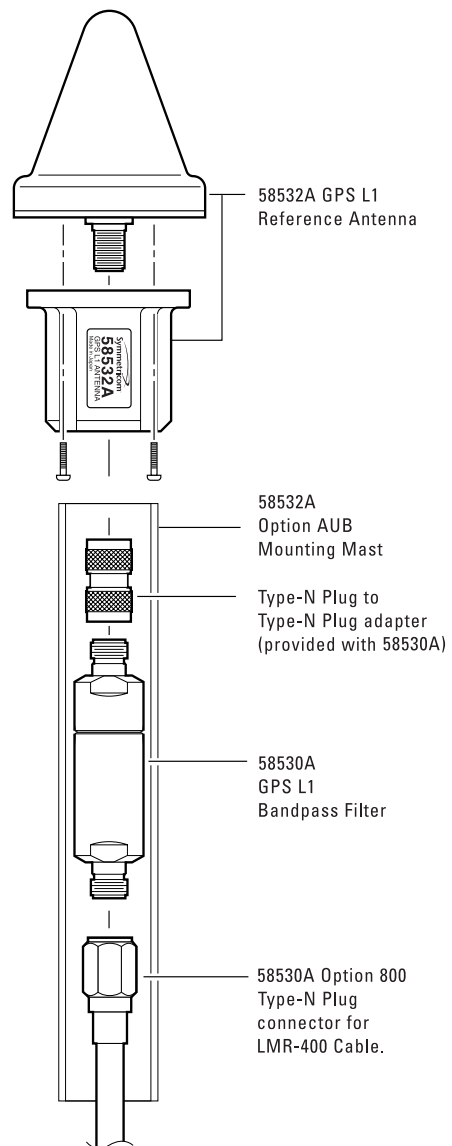
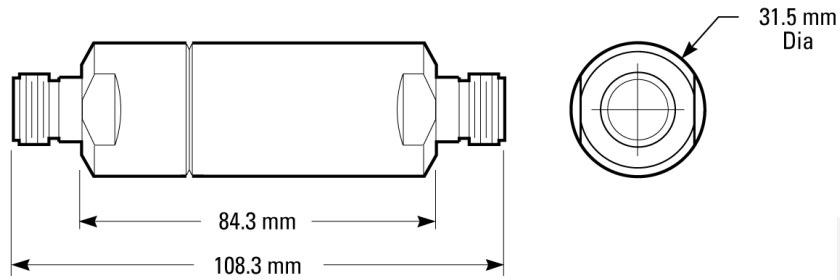
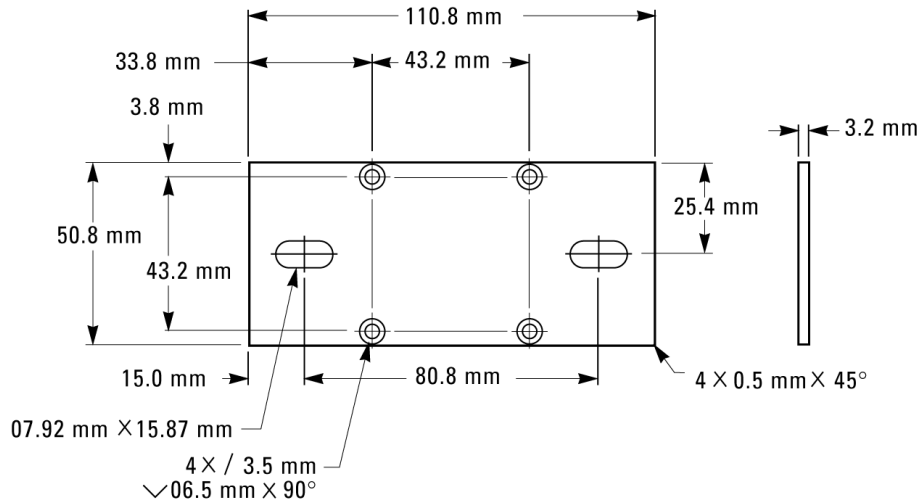


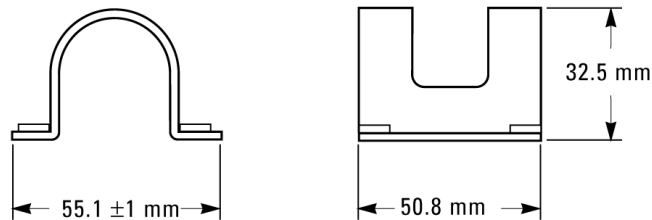
Diagram showing the 58530A installed inside the mounting mast of the 58532A GPS L1 Reference Antenna.



**58530A Line Amplifier/L1 Bandpass Filter Dimensions**



**Option AUB Mounting Bracket Dimensions**



**Option AUB Cylindrical Housing Clamp Dimensions**



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