

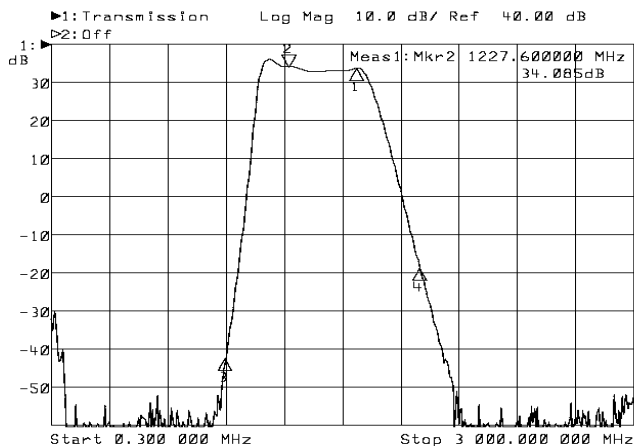


GPS35-BNC Antenna Amplifier



General Description

The GPS35-BNC is an inline GPS antenna amplifier for both the L1 and L2 frequencies of the GPS, GLONASS and Galileo satellite systems. It is simply connected between the GPS receiver and the GPS antenna. Power from the GPS receiver, that normally powers the active antenna, now powers both the active antenna and the GPS35-BNC. Thus, no extra power supply is needed for the GPS35-BNC. The GPS35-BNC can be used with either active or passive GPS antennas by selecting internal jumpers.



The above picture shows the GPS35-BNC frequency response from 300 kHz to 3 GHz. Ultimate rejection is typically > 80 dB

The GPS35-BNC provides a gain of > 37 dB between 1200 and 1607 MHz.. With the GPS35-BNC installed, extra lengths of cable can now be used between the antenna and the GPS receiver itself. If low loss cable is used, cable lengths over 350 meters (1150 feet) can be used without any degradation to the GPS signal.

Adding amplifiers however, can cause more problems than they solve. Extra noise can be introduced by the amplifier and nearby transmitters, e.g. cellular or mobile telephone transmitters, can cause overloading of the GPS receivers input, which could cause loss of satellite signals.

The GPS35-BNC has been specially designed to overcome these problems. Ultra low noise amplifiers have been used; together with a band pass filter. The noise figure of the GPS35-BNC is less than 3 dB and signals in the cellular or mobile frequency bands are rejected by more than 35 dB.

Various Options and Configurations Available

The GPS35-BNC can be configured to suit your exact requirements. The different configurations and options are explained below:

- DC voltage is normally received from the GPS receiver and not passed through the GPS35-BNC-BNC amplifier. This is suitable for passive antennas. The GPS35-BNC operates from 3 to 30 volts at 16 mA.
- Option 01 is a lower gain unit with 20 dB gain. The supply current is also reduced to 12 mA.
- Option 02 allows the DC from the GPS receiver to pass through the amplifier to power an active antenna. This option is now fitted as standard and can be set by user selectable jumpers.
- Option 03 adds an external DC power connector. This allows the GPS35-BNC to be powered from an external power supply source of 3 to 30 volts at 16 mA. This is used if the GPS receiver does not supply its own voltage. This option is now fitted as standard, so either GPS or external power can be used.
- Option 04 is an external power supply used for options 03. It operates from 100 to 240 VAC.
- The connectors are BNC type as standard. Other connectors are available such as N or TNC.

High Quality of Construction

The GPS35-BNC is made to the highest standards. The RF circuits are housed in an aluminum enclosure which has been milled out of a solid piece of aluminum.

GPS35-BNC SPECIFICATIONS

Specification Parameter	Specification	Comments
Usable Frequency Range	1200 to 1607 MHz	
Input and Output Impedance	50 Ω nominal	
Gain	>37 dB	
Input and Output return loss	> 10 dB typical	
Stopband Rejection	35 dB min from 0 to 900 MHz and > 1900 MHz	Typically > 45 dB rejection
Noise Figure / Reverse Isolation	< 3 dB / > 65 dB	
1 dB Compression	-15 dBm	
DC Voltage Required	3.0 V to 30 V	Options to 50V
DC Current of amplifier	20 mA Max	Typically < 19 mA
Max DC Current to antenna	75 mA	With 5V going to antenna
Max DC Current to antenna	30 mA	With 3V going to antenna
Connectors	BNC type female as standard.	
Size	127.0 mm x 40.0 mm x 21 mm	Inc. Connectors
Weight	250 grams	
Environmental	-40 °C to +85 °C	-40 to +100 optional
Option 01 01B	Different Gains. 01 = 20 dB. 01B = 36 dB	Other gains available
Option 04	Power supply for option 03. 100 – 240 VAC	
Option 05 / 05A	Operating voltage changed to 15V or 30 VDC	Other voltages available
Option 07	-40 to +100 °C operating range	

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Specifications subject to change without notice (250714)