

# Installation Instruction - SW3-087

## A. Introduction

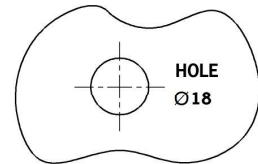
This instruction covers low profile MiMo antennas with M18 thread size mounting bolt. The antenna is low profile, doesn't require a groundplane and is optimised for use on non-conductive mounting panels. The antenna can be mounted on metal panels but the performance will diminish. The antenna will fit panels of up to 9mm (0.35") thickness.

## B. Select A Suitable Mounting Location

Select suitable mounting location which is spaced away from other structures on the mounting panel. The appropriate distance will depend on height of structure, but minimum recommended spacing is one wavelength at the lowest operating frequency for the antenna. To calculate this, see below:  
 $300 / \text{frequency in MHz} = \text{Wave length (m)}$  As an example for 900MHz -  $300/900 = 0.33\text{m (1')}$ .  
Ensure adequate under panel clearance and check for double skin or position of any cross brace. Measure to check for central position if applicable.

## C. Prepare and Make A Hole

Mask the panel area around the hole position to protect the paintwork and headliner (if applicable). Drill a pilot hole, then increase to 18mm (3/4") clearance, ensuring that the drill/cutter bit does not contact anything under the panel. Clean area around the hole, carefully removing all swarf. Apply some petroleum jelly or paint around the hole to prevent corrosion.



## D. Fitting the Antenna

Remove the protective backing from the underside of the antenna, feed the coaxial cable through the panel. Position the antenna over the hole ensuring correct orientation if applicable and stick to panel by applying firm downward pressure. For optimal adhesion the antenna should be only be installed at temperatures above 16°C (60°F). Assemble the nut and washer from underside and tighten.

## E. Routing and Terminating Coaxial Cable(s)

Route the coaxial cable to the equipment, taking care to avoid running adjacent to existing wiring or fouling any moving component. The cable(s) must not be routed in front of any airbag device. Respect a 12mm (1/2") bend radius for the coaxial cables.

## F. Important Notices



### DO NOT

- operate the transmitter when someone is within 20cm (8") of the antenna.
- operate the equipment in an explosive atmosphere.
- attempt to install the antennas without the proper safe equipment to access the install location.
- install the antenna near overhead power lines
- chew parts or put them in mouth, keep away from unsupervised children.



### European Waste Electronic Equipment Directive 2002/96/EC

Waste electrical products should not be disposed of with household waste. All electronic products with the WEEE logo must be collected and sent to approved operators for safe disposal or recycling. Please recycle where facilities exist. Many electrical/electronic equipment retailers facilitate "Distributor Take-Back scheme" for household WEEE. Check with your Local Authority or electronic retailers for designated collection facilities where WEEE can be disposed of for free.



### Directive 2011/65/EU (RoHS 2)

RoHS 2 compliance is declared per Directive 2011/65/EU and its subsequent amendments with exemption 6.c applied.

### REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals, EC 1907/2006)

This product contains Lead (CAS No. 7439-92-1) which is classified as an SVHC (Substance of Very High Concern) as being toxic to reproduction under Article 57c. of REACH. **Do not chew parts or put them in mouth, keep away from unsupervised children. Dispose of parts as WEEE waste do not send to landfill.**

**Waiver:** This document represents information compiled to the best of our present knowledge. It is not intended as a representation or warranty of fitness of the products described for any particular purpose. This document details guidelines for general information purposes only. Always seek specialist advice when planning installations and ensure that antennas are always installed by a properly qualified installer in compliance with local laws and regulations..

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## G. Additional Compliance Notice For LG Variants



### EU Declaration of Conformity (RED)

Object Reference: LGX  
Object Description: Low Profile Antenna with active GNSS Antenna  
Manufacturer: Panorama Antennas Ltd 61 Frogmore, London, SW18 1HF, U.K.

This declaration is issued under the sole responsibility of the manufacturer  
The object of the declaration described above is in conformity with the relevant Union Harmonization Legislation below:

Directive 2014/53/EU Radio Equipment Directive (RED)

Harmonised Standards and References:

EN 301 489-1 (V2.1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements".

Referencing EN 61000-4-2:2009 – Electrostatic Discharge Immunity and EN 61000-4-3:2006 +A1:2008 +A2:2010 – Radiated RF Immunity

EN 300 440-1 V1.6.1 (2010-08) – Electromagnetic compatibility and radio spectrum matters (ERM); short range devices; radio equipment to be used in the 1GHz to 40GHz frequency range; Part 1: Technical characteristics and Test methods in accordance with EN 300 440-2 V1.4.1 (2010-8) - Electromagnetic compatibility and radio spectrum matters (ERM); short range devices; radio equipment to be used in the 1GHz to 40GHz frequency range

Low Voltage Directive: Directive 2014/35/EU (Electrical Equipment designed for use within certain voltage limits) of 26th February 2014.

EN60950-1: Safety of information technology equipment – according to test specification EN 60950-1:2006+A2:2013

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PANORAMA ANTENNAS  
www.panoramantennas.com

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