

# Chronos Ofcom Compliant GPS Repeater Installation Services

## GNSS GPS Installations Excellence from the Experts

### Overview

In line with Ofcom's GPS/GNSS repeaters licencing regime, GNSS experts Chronos can ensure your installation is designed and compliant with the required EN 302 645 ETSI Standard and required practices.

Chronos is perhaps the UK's largest installer of GPS/GNSS systems, having installed over a 1500 worldwide. From the OSNET to large numbers of mobile and fixed telecommunication sites and several UK and overseas military installations, our team has a unique level of experience and knowledge.

### Why Install GPS Repeating Systems?

Where a GNSS navigation system is fitted in to a system or product, even if it is only a back-up, it has to be tested, maintained and calibrated in order to ensure full functionality.

For example, when a plane is serviced or stored in a hangar, it does not have a clear view of the sky and as GPS signals are inherently low strength, GPS repeating systems allow the GPS signal to be received inside the hangar enabling flight navigation systems to be tested in a safe/covert environment. It can also enable a plane to have a lock on the GNSS satellite before it leaves the hangar, which is important if a plane has to be airborne within minutes.

The GNSS signal can be repeated using variable gain controlled or "SMART" amplifiers to anywhere in the hangar/building/workshop so that even quite large indoor spaces or shadowed areas can receive the signal. For large areas or multiple room scenarios, a combination of GPS splitters can be used to provide total coverage using a single external GPS antenna.



### GNSS Installation and Commissioning

Poor GNSS/GPS installations cause systemic performance degradation or malfunction, potentially leading to failure of nearby systems by the introduction of RF interference. Optimal, reliable and durable GNSS infrastructure requires installation by engineers with a high level of understanding of GNSS/GPS signal architectures, RF engineering and knowledge of official standards associated with GNSS/GPS installation operations.

Chronos' team of experienced engineers install and commission GNSS / GPS systems to the highest standards ensuring optimal performance without affecting the local RF environment. A full report describing the work undertaken is provided upon project completion, enabling customers to fully support their own system post commissioning if required. Chronos also offers comprehensive after-sales support.

Chronos' installation services can apply to both authorised GPS repeating systems and to GPS antenna systems to provide GPS RF to equipment within buildings, including the use of GPS RF over fibre where necessary.

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## Chronos Installations Team Expertise

Chronos' installation team is highly skilled and trained and is fully competent with GNSS equipment and solutions. The team has vast experience with performing site surveys and installing equipment to ensure that GPS RF is delivered to equipment inside a customer facility, whether it be a standard GPS receiver, a GPS timing system including for example rubidium oscillator backups, GPS RF over fibre installations to deliver RF into areas of security and RF shielding.

The team has extensive knowledge of managing lone worker situations, health and safety requirements and negotiating on site access and facilities. Chronos' electricians are 16th edition qualified.

Companies occasionally use independent sub-contractors, with little or no experience of GPS/GNSS or sync and timing principles. This has the potential for errors to be inadvertently introduced leading to a non-compliant, and inefficient system. Chronos receives several requests throughout the year for assistance with faulty kit and poor installations. Get it right first time with advice on suitable kit and an expert installation from our team.

