

AJKIT-1

Syncbox Anti-jam Upgrade Kit

User Manual

Version 1.1

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LIMITED WARRANTY

This upgrade kit is guaranteed against failure due to faulty parts or workmanship for a period of five (5) years from date of purchase.

In the event of product failure due to faulty parts or workmanship within the warranty period, World Time Solutions Limited, at its own discretion, will either (a) repair the product, (b) supply a replacement product, (c) supply a functionally equivalent replacement product, or (d) refund the purchase price of the product.

The limited warranty will not apply if (a) the product has not been installed or operated as per our instructions, (b) the product has been modified in anyway.

In the event of failure, the upgrade kit should be returned to the manufacturer for inspection and repair. Please visit our support pages for further details:

www.worldtimesolutions.com/support.html

TECHNICAL SUPPORT

To obtain help with the installation or operation of the upgrade kit, please visit our web site at:

www.worldtimesolutions.com/support.html

1 - Introduction

1.1 - Overview

The AJKIT-1 anti-jam antenna upgrade kit provides GPS jamming and lightning protection for your Syncbox GPS time server.

Incorporating class leading anti-jam technology and multistage multi-strike lightning protection, the upgrade kit ensures the reliable operation of your Syncbox system, even in hostile RF environments.

1.2 - Scope of supply

Scope of supply:

- 1 x anti-jam GPS timing antenna
- 1 x antenna mount
- 1 x lightning arrester
- 1 x 25m antenna coax cable (*or alternative length if ordered*)
- 1 x 1m arrester coax cable
- 1 x user manual

2 - Installation

Installing the anti-jam upgrade kit is a straightforward procedure. All cables are supplied pre-terminated and no specialist tools are required. However, to ensure reliable and safe operation, care should be taken selecting appropriate locations for the GPS antenna and lightning arrester.

Please follow the installation guidelines below to ensure a trouble-free installation.

2.1 - Installing the antenna

2.1.1 - Selecting an installation location

The antenna should be installed externally, with the maximum possible sky visibility. For most installations, the ideal location will be the roof of your building (*the antenna is able to withstand extreme temperatures, excessive vibration, rain, snow and sunlight*).

Ideally, the antenna should have a clear uninterrupted 360° view of the horizon. For installations where an unobstructed view of the sky is not practical, the antenna should be installed with as large a view as possible of the sky towards the equator. Installing the antenna with a substantially reduced view of the sky will degrade system performance and may increase synchronisation time.

2.1.2 - Mounting the antenna

The antenna should be mounted with the top of the dome facing directly upwards and secured using the stainless steel surface mount antenna bracket. Care should be taken to ensure the fixings used (*not supplied*) are suitable for the application. Figure 1.1 below details the antenna mount fixing dimensions.

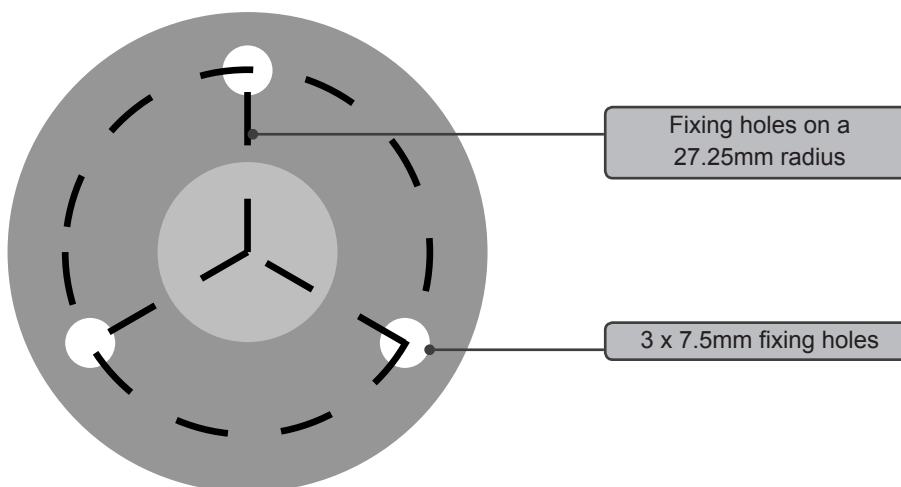


Figure 1.1 - Antenna mount fixing dimensions

2.1.3 - The antenna cable

The Syncbox upgrade kit is supplied as standard with a 25m (82ft) pre-terminated RG-58C/U TNC to TNC coaxial cable for the connection between the antenna and the lightning arrester. Other lengths of antenna cable are optionally available if required.

2.2 - Installing the lightning arrester

The multi-strike fast response lightning arrester connects between the antenna and the Syncbox. The lightning arrester provides surge protection for the Syncbox (*and attached systems*) in the event of a lightning strike.

PLEASE NOTE: THE LIGHTNING ARRESTER MUST NOT BE INSTALLED EXTERNALLY.

The lightning arrester should be installed internally at the point where the antenna cable enters the building. It is important that the lightning arrester is grounded to a low impedance ground system for proper operation.

THE LIGHTNING ARRESTER IS SUPPLIED WITH A SEPARATE INSTRUCTION SHEET WITH FULL INSTALLATION DETAILS. PLEASE CONSULT THIS SEPARATE INSTRUCTION SHEET CAREFULLY WHEN INSTALLING YOUR LIGHTNING ARRESTER.

2.3 - Connecting to the Syncbox

The lightning arrester should be connected to the Syncbox using the supplied 1m (3ft) pre-terminated RG-58C/U TNC to SMA coaxial cable.

Please consult the Syncbox user manual for further installation details relating to the Syncbox GPS Time Server.

A - Specifications

Antenna:	
Antenna:	Waterproof (to 1m), corrosion resistant GPS anti-jam antenna. Designed to withstand extreme temperature environments, excessive vibration, rain, snow and sunlight
Gain:	30dB (@ 25°C)
Noise:	3.3dB max (25°C +/-5°C)
Azimuth coverage:	360° (omni-directional)
Elevation coverage:	0° to 90° (hemispherical)
Operating temperature:	-40°C to +80°C
Dimensions:	78 x 66mm (3.05" x 2.61")

Antenna mount:	
Antenna mount:	105mm (4.13") stainless steel antenna mount

Lightning arrester:	
Lightning arrester:	Multistage, multi-strike fast response

Cabling:	
Antenna cable:	25m (82ft) pre-terminated RG-58C/U TNC to TNC coaxial
Arrester cable:	1m (3ft) pre-terminated RG-58C/U TNC to SMA coaxial

Scope of supply:	
Scope of supply:	1 x anti-jam GPS timing antenna 1 x antenna mount 1 x lightning arrester 1 x 25m antenna coax cable 1 x 1m arrester coax cable

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