# Title Page

**Weather Station User Manual**

**Kestrel 5500 Weather Meter**

Figure : Insert a picture of the system that this document covers

## Publication Number

AFSL-2017-01

See \\AFSL\TechnicalDataPackage\AFSLPublicationNumbers.docx for list of publication numbers.

## System Name

Kestrel 5500 Weather Meter

## Model Number

Kestrel 5500 Weather Meter

## Date of Issue

January 12, 2017

# Record of Manual Revisions

Table : Record of manual revisions

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Revision** | **Date** | **Pages Affected** | **Revisions** | **Author** | **Check** | **Approved** |
| 1 | 01/12/17 | All | Created document | Maius Wong |  |  |

# Table of Contents

Contents

[1. Title Page 1](#_Toc471987635)

[1. Publication Number 1](#_Toc471987636)

[2. System Name 1](#_Toc471987637)

[3. Model Number 1](#_Toc471987638)

[4. Date of Issue 1](#_Toc471987639)

[2. Record of Manual Revisions 1](#_Toc471987640)

[3. Table of Contents 2](#_Toc471987641)

[4. Nomenclature & Glossary 3](#_Toc471987642)

[5. Introduction 3](#_Toc471987643)

[1. SList of Standards Used for Design and Construction 3](#_Toc471987644)

[6. General Information and System Description 3](#_Toc471987645)

[7. Normal Operations 3](#_Toc471987646)

[1. Storage Location 3](#_Toc471987647)

[2. Equipment Set-up 3](#_Toc471987648)

[3. Software Set-up 4](#_Toc471987649)

[4. Altitude Calibration 4](#_Toc471987650)

[5. Equipment Tear-Down 4](#_Toc471987651)

[8. Bibliography 4](#_Toc471987652)

# Nomenclature & Glossary

Table : Nomenclature and glossary of terms

|  |  |  |
| --- | --- | --- |
| **Term** | **Definition** | **Comment** |
| METAR | Meteorological Terminal Aviation Routine | Typically hourly weather observations made by airfield equipment, for use by pilots in weather planning. |
| KSEA | Seattle-Tacoma International Airport | ICAO code used for Seattle-Tacoma International Airport |
| KPAE | Snohomish County Airport (Paine Field) | ICAO code used for Snohomish County Airport (Paine Field) |

# Introduction

This document provides operating instructions for the Kestrel 5500 Weather Meter and its Bluetooth connection to Android/iOS devices to view real-time weather data.

## SList of Standards Used for Design and Construction

The structure of this manual does not follow a specified standard.

# General Information and System Description

The Kestrel 5500 Weather Meter provides meteorological data which can be viewed on its screen, or transmitted via Bluetooth to Android/iOS devices. This is useful for collecting altitude, pressure, temperature, wind direction/speed, and humidity levels. Data can be stored on the Kestrel 5500 and can be logged and transmitted via Bluetooth to a PC, or can be streamed live to Android/iOS devices. This manual covers the latter of these two operations.

# Normal Operations

## 1. Storage Location

The Kestrel 5500 is stored in a carrying case with its wind vane attachment inside a fabric case in the box labeled “Electronic Tools”. The tripod is kept in the MFOC.

## Equipment Set-up

The Kestrel 5500 is attached to the wind vane by the instructions provided in the operating manual, located inside the carrying case. This set-up can then be attached to a tripod. The Kestrel 5500 is powered on by pressing the power button on the bottom-left of the unit.

## Software Set-up

The Kestrel 5500 uses a Bluetooth connection to stream data – thus it is important that a Bluetooth-capable device (phone, tablet, etc.) is used, and that Bluetooth is enabled.

The Kestrel LiNK app must be installed. This app can be found on the Google Play Store (Android), or the App Store (iOS). Two versions of this app exist – it is necessary to download the correct one (not the one labelled “Ballistics”, etc.) Once installed, launching the app will show a connection screen. **Bluetooth must be enabled on your device at this time.** The app will search for all available Kestrel devices – tap the one labelled “AFSL Kestrel” (this is the name of AFSL’s Kestrel 5500). The Kestrel 5500 will begin to stream data to the device, and data will appear on the screen.

## Altitude Calibration

The Kestrel 5500 uses a pressure altimeter to estimate elevation. As such it is necessary to calibrate the altimeter using an appropriate pressure setting. Current altimeter settings for the Seattle area can be obtained from METAR observations at KSEA or KPAE (all should be reporting about the same altimeter information). METARs can be obtained here: <http://www.aviationweather.gov/adds/metars/index?submit=1&station_ids=ICAO> (replace “ICAO” with the station name (KSEA or KPAE).

Once an altimeter setting is obtained, scroll (via the up/down arrows) on the Kestrel 5500 until reaching a page titled “Altitude”. Press the center button to enter Settings. Scroll (via the up/down arrows) until reaching “Ref Baro”, and adjust the Ref Baro setting to the one obtained (by pressing (left/right), then press the gear button to exit.

## Equipment Tear-Down

Tear down the equipment and place into the original carrying case. The Kestrel, weather vane, and its manual are kept inside its case, and inside the “Electronic Tools” box. Remember to turn off the Kestrel 5500. This is done by holding down the power button until the screen shuts off.

# Bibliography