

User Manual for the WK:1 & WK:2 Outdoor Measurement Kits



This manual, the software to which it relates, the
program code and drawings are all:
© Copyright Pulsar Instruments Plc 1989-2015

The content of this manual, any illustrations, technical information and descriptions within this document were correct at the time of going to print. Pulsar Instruments Plc reserves the right to make any changes necessary, without notice, in line with the policy of continuing product development and improvement.

No part of this publication may be duplicated, reprinted, stored in a data processing system or transmitted by electronic, mechanical, photographic or other means, or recorded, translated, edited, abridged or expanded without the prior written consent of Pulsar Instruments Plc.

No liability is accepted for any inaccuracies or omissions in this manual, although due care has been taken to ensure that it is complete and accurate as possible.

Accessories supplied by Pulsar Instruments Plc have been designed for use with the instrumentation manufactured by Pulsar Instruments Plc. No responsibility is accepted for damage caused by the use of any other parts or accessories.

In order to take account of a policy of continual development, Pulsar Instruments Plc reserves the right to change any of the information contained in this publication without prior notice.

Produced by Pulsar Instruments Plc, The Evron Centre, John Street, Filey, North Yorkshire, YO14 9DQ.

© Copyright Pulsar Instruments Plc

Reference Number 01/07/WK1 & WK/01

Document Printing Date Monday, 07 December 2015

Introduction	4
Outdoor Measurement Kit.....	5
Main Box Section.....	5
Lid Section	6
External Connections	7
Assembly	7
Connecting the Battery	7
Connecting the Sound Level Meter	7
Charging the Battery	7
Lightweight Outdoor Microphone	8
Preparation.....	9
Assembly	10
Operation & Use	11
Calibration	11
Servicing	11
WK:2 Heavy Duty Outdoor Microphone.....	12
Overview	12
Preparing for use.....	13
Preparing for use.....	14
Assembling the Instrument	14
Connecting Cables	15
Microphone.....	15
CE Certificate of Conformity	16
Equipment Description	16
Guarantee.....	17
Pulsar Instruments Offices	17

Introduction

This manual describes the assembly and operation of the WK:1 and WK:2 Outdoor Measurement Kits. These outdoor measurement kits comprise the following versions.

WK:2 Outdoor Measurement kit for use with a Sound Level Meter & Heavy Duty Outdoor Windshield Assembly.

WK:1 Lightweight Outdoor Measurement kit for use with a Sound Level Meter & the Lightweight Outdoor Windshield Assembly.

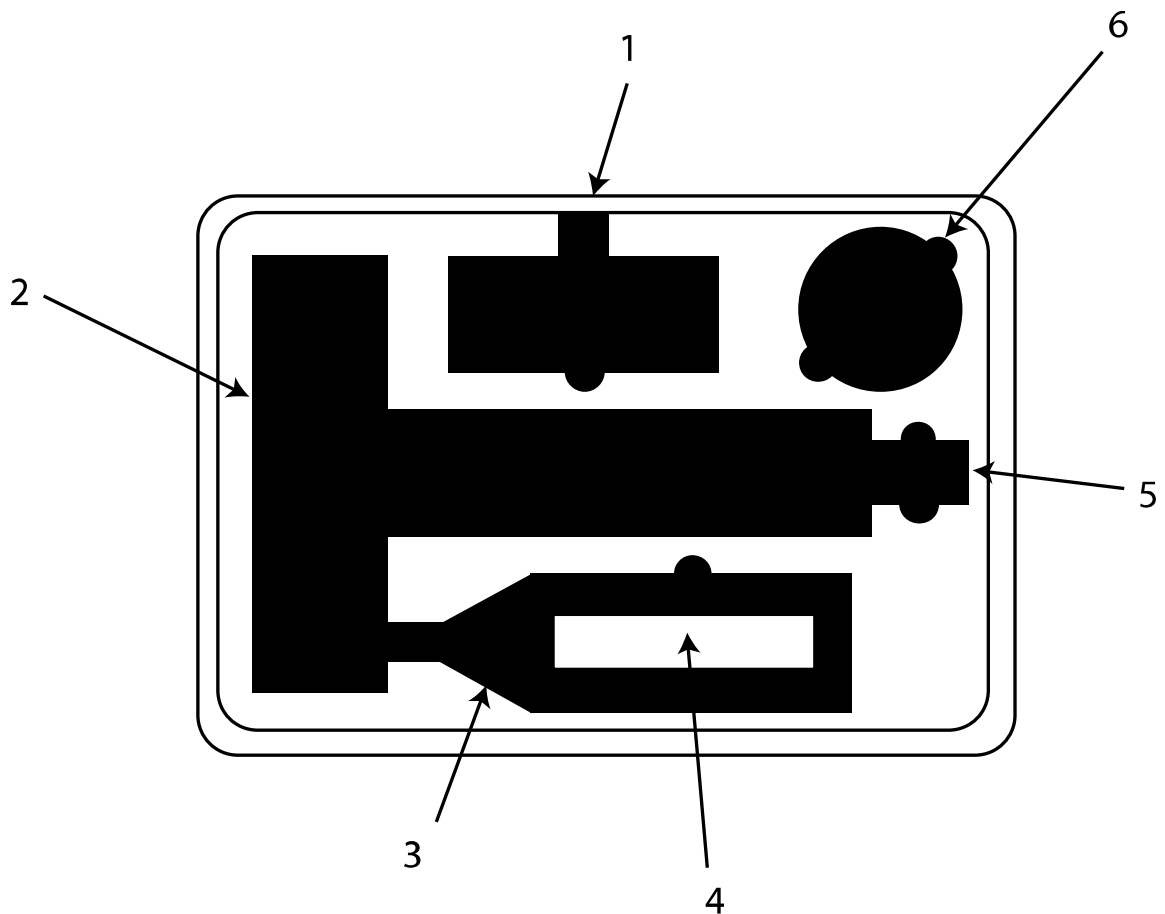
This manual is divided into sections for each component part of the system. The main sections are:

1. Outdoor Measurement Kit Case
2. Lightweight Outdoor Microphone System
3. Heavy Duty Outdoor Microphone System

Please ensure that you have read fully the instructions for each section that is applicable to the equipment supplied.

Please also ensure that you follow the instructions for the appropriate Sound Level Meter that is to be used with the equipment.

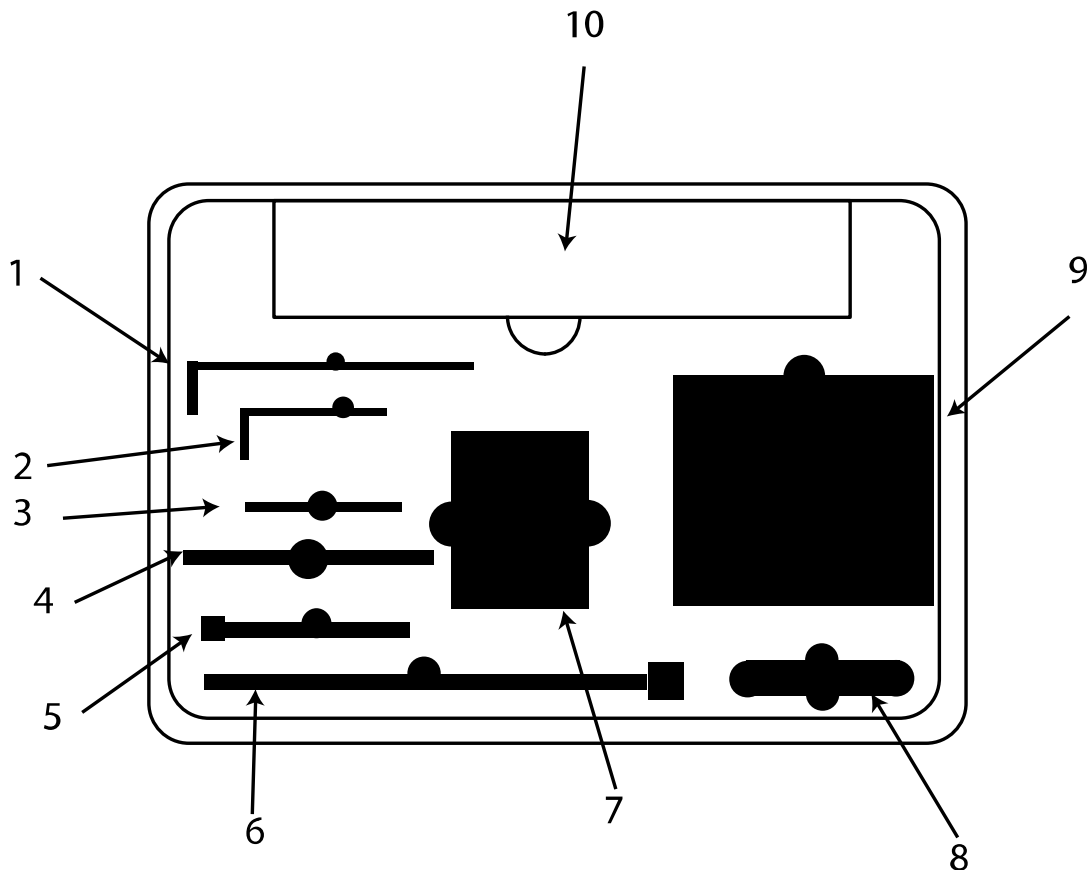
Outdoor Measurement Kit



Main Box Section

The box of the WK:1 and WK:2 shown above is used to contain the main components for the outdoor measurement systems. The cutouts are listed below. Please note that some of these accessories may not be supplied with your equipment.

1. Battery Pack
2. Cables & General Accessories
3. Sound Level Meter
4. Acoustic Calibrator
5. Lightweight Outdoor Windshield
6. Sound Level Meter Windshield

Lid Section

The lid shown above is used to contain accessories for the outdoor measurement systems. The cutouts are listed below. Please note that some of these accessories may not be supplied with your equipment.

1. Allen Key for Base Section
2. Allen Key for Carrying Tube
3. Screwdriver
4. Pen
5. Preamplifier
6. Tripod Mount for Lightweight Windshield Assembly

External Connections

The enclosure has a single external connection for the cable located on the side of the case.

Remove the protective cover and connect the cable to the case.

Ensure that the connector is correctly aligned before tightening the locking ring on the connector.

Assembly

Connecting the Battery

Please note that the battery is not connected during transit. Ensure that the battery cable is connected with the correct polarity and that the battery is charged before use.

Connecting the Sound Level Meter

The Sound Level Meter must be connected to the internal microphone cable and power supply before operation. Ensure that the Sound Level Meter is switched off before connecting the cables.

1. Attach the microphone connector to the top of the Sound Level Meter.
2. Remove the battery cover from the Sound Level Meter and store in the case.
3. Connect the power connector to the Sound Level Meter.

Please refer to the operating manuals for the Sound Level Meter for further information.

4. Connect the Outdoor Windshield Assembly to the main box using the cable supplied.

Charging the Battery

Please ensure that the battery is removed from the enclosure before charging. The Accumate charger is supplied with operating instructions. Please refer to these instructions for details of the operating procedure for this equipment.

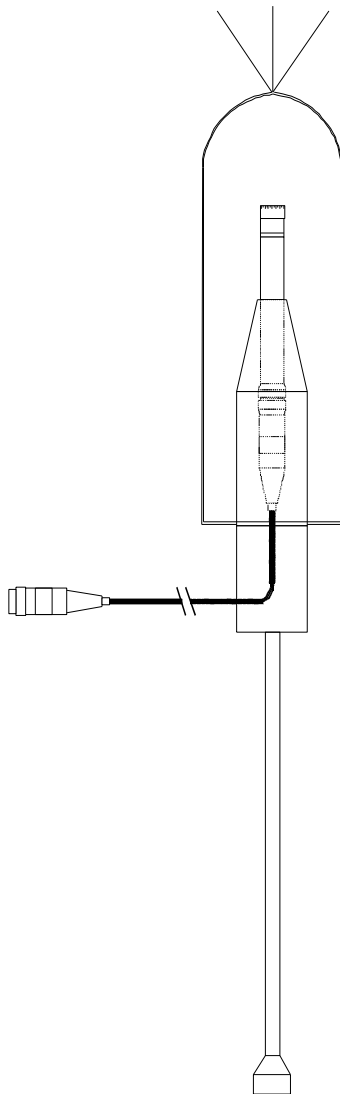
M100 Lightweight Outdoor Microphone

The Lightweight Outdoor Microphone unit is designed to provide weather protection to a Preamplifier and Microphone Capsule (supplied with the Sound Level Meter).

This allows Sound Level Meters to be used for short term outdoor measurements. Please note that the unit does not provide weather protection for the Sound Level Meter. Precautions should be taken to ensure that the Sound Level Meter is not exposed to adverse weather conditions.

The unit is not designed for long term use, and where measurements are required for extended periods or where the weather conditions are adverse, an alternative system such as the WK:2 should be used. For further details please contact Pulsar Instruments plc or your local representative.

Please read the enclosed instructions before using the unit.



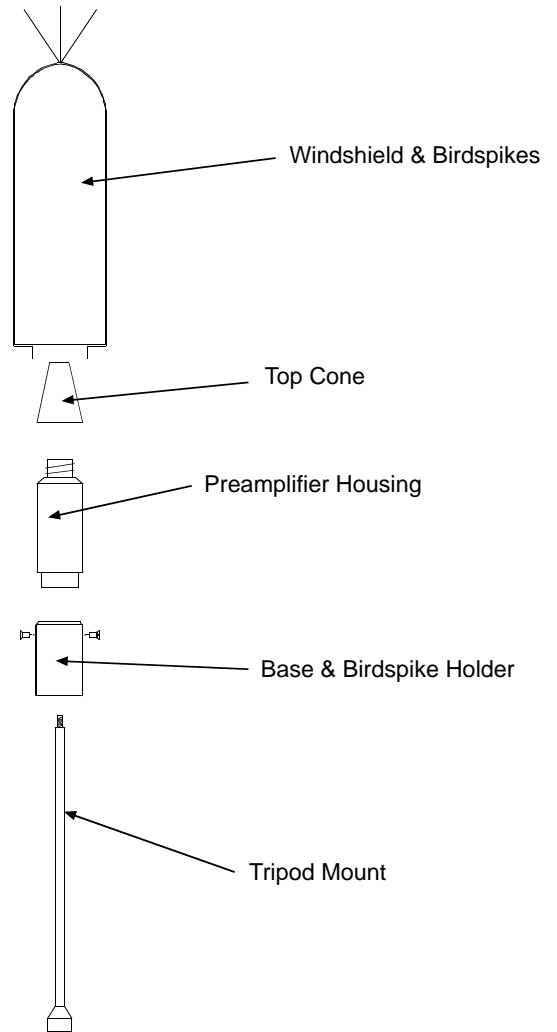
Preparation

Please ensure that you have received all of the components of the unit before assembly. The unit consists of the following.

Item	Description	Qty
1	Tripod Mount	1
2	Base & Birdspike Holder	1
3	Preamplifier Housing	1
4	Screws for Base unit	2
5	Top Cone	1
6	Windshield	1
7	Birdspikes	1 set

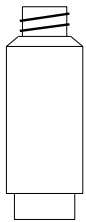
Please note that the unit does not include a Pre-amplifier or Microphone Capsule.

A separate pre-amplifier and microphone can be purchased. Alternatively use the pre-amplifier and microphone supplied with the Sound Level Meter.



Assembly

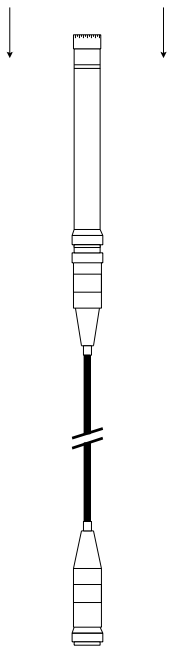
Step 1



A. Remove the microphone capsule from the pre-amplifier and connect the cable to the Pre-amplifier

B. Push the Pre-amplifier through the **Pre-amplifier Housing**. Reattach the microphone capsule to the preamplifier.

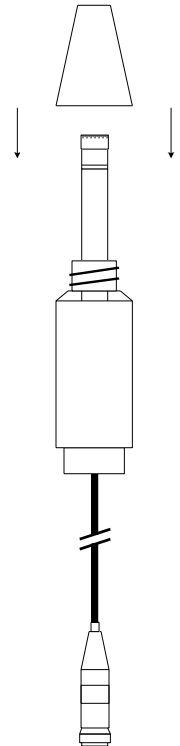
C. Ensure that the O-Ring is located in the top of the Pre-amplifier Housing and that the Pre-amplifier and Microphone Cable is secure.



Step 2.

A. Screw the **Top Cone** to the **Pre-amplifier Housing** to secure the Pre-amplifier.

It is important that the **Top Cone** is secure on the **Pre-amplifier Housing**.



Step 3.

A. Attach the **Birdspikes** to the **Base & Birdspike Holder**. **Do not** attach the Windshield.

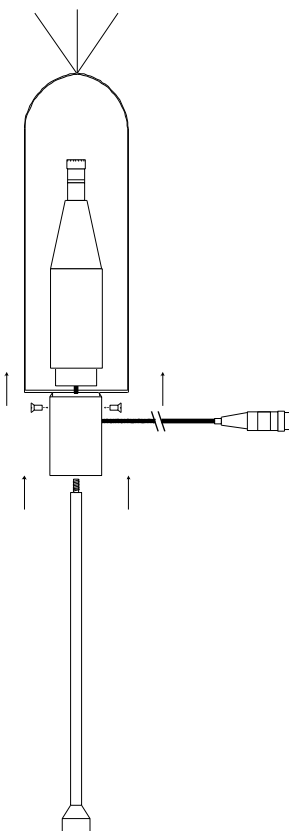
Ensure that the three birdspikes are correctly located in the holes in the **Base** unit.

B. Push the **Pre-amplifier Housing** into the **Base & Birdspike Holder** and secure using the two screws supplied.

Ensure that the microphone cable exits through the hole in the side of the **Base** units

C. Insert the **Windshield** into the **Birdspikes**.

D. Attach the **Tripod Mount** to the **Base** unit.



Operation & Use

Calibration

The Sound Level Meter connected to the unit should be calibrated as described in the Operating Manual for the instrument.

Remove the Windshield from the birdspikes to gain access to the preamplifier and microphone capsule.

Follow the Calibration procedure described in the Operating Manual for the associated Sound Level Meter.

After calibration, replace the Windshield.

Servicing

The unit does not contain any active components and therefore does not require annual recalibration or servicing.

To maintain the integrity of the seals, a lightweight petroleum based lubricant should be used on the O-ring seals periodically.

If any of the components are lost or damaged, please contact your local representative or Pulsar Instruments plc directly.

The Preamplifier used with the unit is associated with a Sound Level Meter and should be kept with the Sound Level Meter at all times.

Do not exchange preamplifiers or microphone capsules with other Pulsar Sound Level Meters or equipment without consulting the main office.

No responsibility will be accepted for damage caused to equipment due to misuse or the application of incorrect accessories.

M120 Heavy Duty Outdoor Microphone

Overview

The WK:2 outdoor system is designed to be used as part of a portable semi-permanent acoustic measurement system. It is powered by the Sound Level Meter or data logger to which it is connected via the screened and waterproof cable.

The microphone system in its standard form is not equipped with a separate rainshield, relying instead on a windshield to prevent rain reaching the microphone capsule membrane.

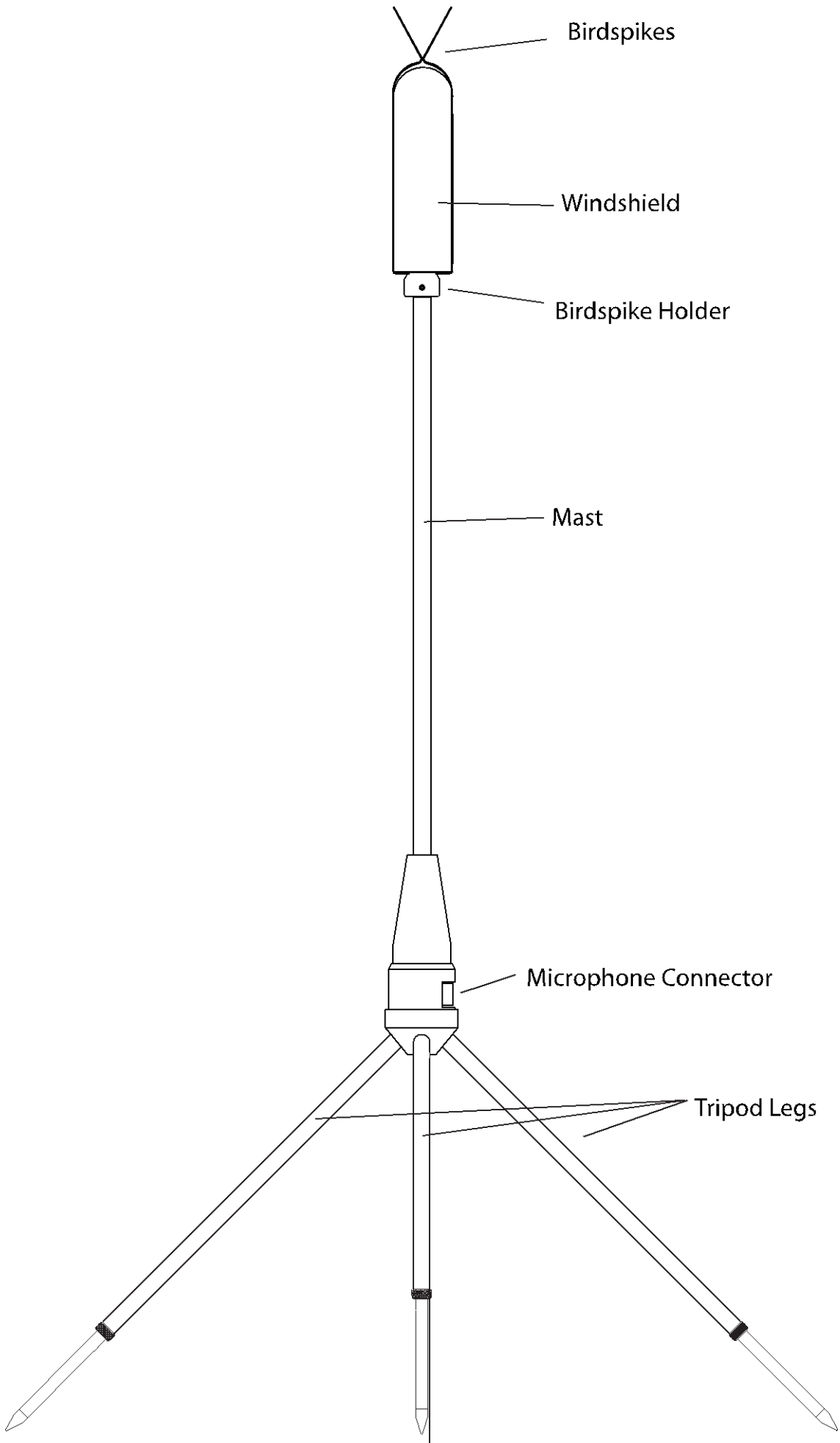
The capsule height can be set to be between 1,2 and 1,5 metres, the two internationally agreed microphone heights for various outdoor measurements.

It should be noted that this will bring the birdspikes to a height at which they could cause danger to the user. Care should be taken therefore when using the birdspikes and persons should be protected from this danger.

The WK:2 is supplied with a windshield to reduce wind noise and to protect the capsule from adverse weather conditions. The top of the windshield carries the bird-spikes which prevent birds from landing on top of the unit, thus causing extraneous noise as well as soiling the windshield. The unit is also supplied with an integral tripod allowing the unit to be used as supplied.

Be very careful when using the bird-spike as it is at eye height.

Please note that the unit does not include a Microphone capsule. A separate microphone can be purchased. Alternatively, use the microphone supplied with the Sound Level Meter.

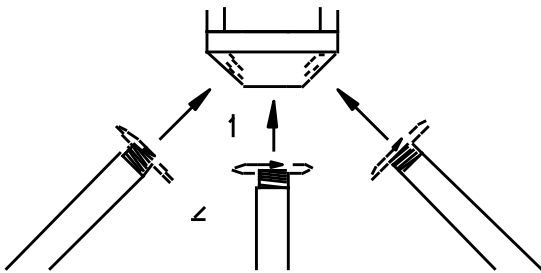


Preparing for use

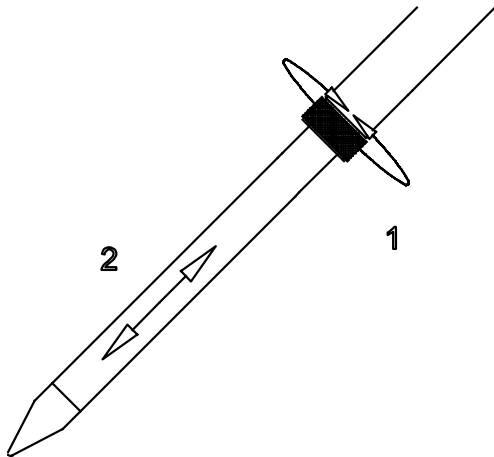
Assembling the Instrument

Windshield Assembly

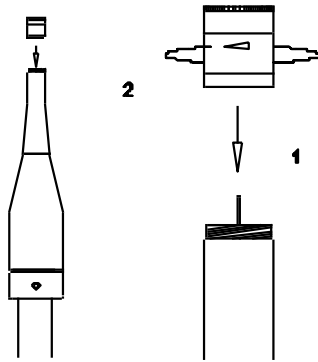
1. Carefully remove the Windshield Assembly from the transit case. The unit is secured by two knurled bolts.
2. Remove the tripod leg carrier from the mast, and unscrew the legs from the carrier.
3. Attach the tripod legs to the base unit. Ensure that the legs are inserted correctly before tightening.



4. The legs of the tripod unit can be adjusted to accommodate uneven ground.



5. The microphone capsule is usually attached to the system during transit. If this is not the case, remove the outer windshield from the unit. Gently screw the capsule on to the preamplifier and replace the windshield.
-



Connecting Cables

Ensure that all cables and connectors are secure before using the instrument. This is particularly important when the instrument is to be used in an outdoor environment. The connectors used on the unit are weatherproof and should be tight to ensure an effective seal.

Microphone

Please note that the unit does not include a Microphone capsule. A separate microphone can be purchased. Alternatively, use the microphone supplied with the sound level meter. A 10m cable is supplied which carries the electrostatic actuator signals where this option is fitted.

Connect the Cable to the kit case. Connect the other end to the Microphone System.

CE Certificate of Conformity

Pulsar Instruments Plc Hunmanby UK CE Certificate of Conformity



Manufacturer: Pulsar Instruments Plc
Unit 2, Bridlington Road Industrial Estate
Hunmanby, Noise Yorkshire
United Kingdom
Telephone +44 1723 518011

Equipment Description

The following equipment manufactured after 1st January 2006:

WK:1 Outdoor Measurement Kit
WK:2 Outdoor Measurement Kit

Along with their standard accessories

According to EMC Directives 89/336/EEC and 93/98/EEC

meet the following standards

EN 50081-1 (1992)

Generic emission standard for residential, commercial and light industry

EN 50082-1

RF immunity implies that sound level indications will not be affected by more than $\nabla 0.5\text{dB}$ at a background level of 74dB(A) or less.

Signed

Dated 1st January 2006

A handwritten signature in black ink, appearing to be 'S. O'Rourke', written over a horizontal line.

S. O'Rourke

Guarantee

Pulsar Instruments Plc offers a 12 month guarantee on all of their units. This covers all parts and labour excepting only damage caused by the user. Because of the unique fragility of microphones, only internal short or open circuits are accepted as faults and not accident damage. The guarantee requires the user to return the unit to their nearest authorised Pulsar Instruments Plc Agent. This guarantee is in addition to any statutory rights in your country.

Pulsar Instruments Offices

The addresses given below are the Pulsar Instruments Plc offices. Pulsar Instruments Plc also have approved distributors and agents in many countries worldwide. For details of your local representative, please contact Pulsar Instruments Plc at the address below. Contact details for Pulsar Instruments authorised distributors and agents are also available from the Internet Web site at the address shown below.

Pulsar Instruments Plc
The Evron Centre
John Street
Filey
North Yorkshire
United Kingdom
YO14 9DQ

Telephone:	01723 518011
Fax:	01723 518043
e-mail:	sales@pulsarinstruments.com
Website:	www.pulsarinstruments.com
