AMS-8063

AREA MONITOR SYSTEM

User's Manual

AMS-8063/00
AMS-8063/01
AMS-8063/02

SERIAL NUMBER OF THE INSTRUMENT
You can find the serial number on the side of the metal bracket located under the baseplate, on the side of the Power pack and on the side of the Solar panels.
Serial number is in the form: 000XY00000.
The first three digits and the two letters are the Serial Number prefix, the last five digits are the Serial Number suffix. The prefix is the same for identical instruments, it changes only when a configuration change is made to the instrument.
The suffix is different for each instrument.

NOTE:

® Names and Logo are registered trademarks of Narda Safety Test Solutions GmbH – Trade names are trademarks of the owners.

⚠ CAUTION   If the instrument is used in any other way than as described in this User's Manual, it may become unsafe.

Before using this product, the related documentation must be read with great care and fully understood to familiarize with all the safety prescriptions.

To ensure the correct use and the maximum safety level, the User shall know all the instructions and recommendations contained in this document.

⚠ WARNING   **This product is a Safety Class III instrument according to IEC classification and has been designed to meet the requirements of EN61010-1 (Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use).**

In accordance with the IEC classification, the power supply of this product meets requirements **Safety Class II** and **Installation Category II** (having double insulation and able to carry out mono-phase power supply operations).

It complies with the requirements of **Pollution Class II** (usually only non-conductive pollution). However, occasionally it may become temporarily conductive due to condense on it.

The information contained in this document is subject to change without notice.

EXPLANATION OF ELECTRICAL AND SAFETY SYMBOLS :

You now own a high-quality instrument that will give you many years of reliable service. Nevertheless, even this product will eventually become obsolete. When that time comes, please remember that electronic equipment must be disposed of in accordance with local regulations. This product conforms to the WEEE Directive of the European Union (2002/96/EC) and belongs to Category 9 (Monitoring and Control Instruments). You can return the instrument to us free of charge for proper environment friendly disposal. You can obtain further information from your local Narda Sales Partner or by visiting our website at www.narda-sts.it .

⚡ **Warning, danger of electric shock**	⏚ **Earth**
⚠ **Read carefully the Operating Manual and its instructions, pay attention to the safety symbols**	**Unit Earth Connection**
Earth Protection	**Equipotential**

KEY TO THE SYMBOLS USED IN THIS DOCUMENT:

⚠ DANGER   **The DANGER sign draws attention to a serious risk to a person's safety, which, if not avoided, will result in death or serious injury. All the precautions must be fully understood and applied before proceeding.**

⚠ WARNING   **The WARNING sign indicates a hazardous situation, which, if not avoided, could result in death or serious injury. All the precautions must be fully understood and applied before proceeding.**

⚠ CAUTION   **The CAUTION sign indicates a hazardous situation, which, if not avoided, could result in minor or moderate injury.**

NOTICE   **The NOTICE sign draws attention to a potential risk of damage to the apparatus or loss of data.**

☞ NOTE   **The NOTE sign draws attention to important information.**

II	**Note and symbols**

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⚠ WARNING | ***SAFETY RECOMMENDATIONS AND INSTRUCTIONS***

This product has been designed, produced and tested in Italy, and it left the factory in conditions fully complying with the current safety standards. To maintain it in safe conditions and ensure correct use, these general instructions must be fully understood and applied before the product is used.

- When the device must be connected permanently, first provide effective grounding;
- If the device must be connected to other equipment or accessories, make sure they are all safely grounded;
- In case of devices permanently connected to the power supply, and lacking any fuses or other devices of mains protection, the power line must be equipped with adequate protection commensurate to the consumption of all the devices connected to it;
- In case of connection of the device to the power mains, make sure before connection that the voltage selected on the voltage switch and the fuses are adequate for the voltage of the actual mains;
- Devices in Safety Class I, equipped with connection to the power mains by means of cord and plug, can only be plugged into a socket equipped with a ground wire;
- Any interruption or loosening of the ground wire or of a connecting power cable, inside or outside the device, will cause a potential risk for the safety of the personnel;
- Ground connections must not be interrupted intentionally;
- To prevent the possible danger of electrocution, do not remove any covers, panels or guards installed on the device, and refer only to NARDA Service Centers if maintenance should be necessary;
- To maintain adequate protection from fire hazards, replace fuses only with others of the same type and rating;
- Follow the safety regulations and any additional instructions in this manual to prevent accidents and damages.

narda ⚠
Safety Test Solutions

Dichiarazione di Conformità
EU Declaration of Conformity C E

In accordo alla Decisione 768/2008/EC, conforme alle direttive EMC 2014/30/UE, Bassa Tensione 2014/35/UE e RoHS 2011/65/UE, ed anche alle norme ISO/IEC 17050-1 e 17050-2.
In accordance with the Decision 768/2008/EC, compliant to the Directives EMC 2014/30/EU, Low Voltage 2014/35/EU and RoHS 2011/65/EU, also compliant to the ISO/IEC standard 17050-1 and 17050-2

Il costruttore *The manufacturer*	**narda Safety Test Solutions S.r.l. Socio Unico**
Indirizzo *Address*	**Via Benessea, 29 / B**
	I-17035 Cisano sul Neva (SV) - Italy

sulla base delle seguenti norme europee armonizzate, applicate con esito positivo:
based on the following harmonized European Standards, successfully applied:

EMC - Emissioni: *EMC - Emission:*	**EN 61326-1** (2013)
EMC - Immunità: *EMC - Immunity:*	**EN 61326-1** (2013)
Sicurezza: *Safety:*	**EN 61010-1** (2010)

dichiara, sotto la propria responsabilità, che il prodotto:
declares, under its sole responsibility, that the product:

Descrizione *Description*	**SISTEMA DI MONITORAGGIO SELETTIVO** ***AREA MONITOR SYSTEM***
Modello *Model*	**AMS-8063** /00 /01 /02

è conforme ai requisiti essenziali delle seguenti Direttive:
conforms with the essential requirements of the following Directives:

Bassa Tensione *Low Voltage*	**2014/35/EU**
Compatibiltà Elettromagnetica *EMC*	**2014/30/EU**
RoHS *RoHS*	**2011/65/EU**

Cisano sul Neva, 30 June 2017 | **Egon Stocca**

General Manager

EC Conformity | **VII**

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Safety considerations

1 – General Information

1.1 Documentation

This Users Manual contains the following annexes:
- A form to be returned to NARDA with the device when requesting service.
- A checklist of the accessories included in the shipment.

1.2 Introduction

The AMS-8063 family products are revolutionary, accurate and reliable solutions for remote and continuous monitoring of electromagnetic fields.
The AMS-8063 Area Monitor consist of a protective case made of material that is transparent to electromagnetic fields and designed to house the EHP-8063 E-H fields analyzer and the data transmission devices.
EHP-8063 has been designed for 3 axis accurate measurements of both electric and magnetic fields, in the frequency range 9 kHz to 30 MHz.

The Wi-Fi Serial Converter (AMS-8063-00) allow the connection of the system to a WLAN network with TCP/IP protocol.
The AMS-8063-01 can only be connected to the PC by RS232 cable.
The PC handles the AMS-8063-02 through the AMS-8063-02 Interface box that allows a long optical connection

The AMS-8063-00 e AMS-8063-01 models are powered by high capacity back-up batteries and solar panels (twin pair).
AMS-8063-02 does not have any solar cells, as it is powered by high capacity rechargeable batteries.

An external power supply is provided for continuous, indoor operation for all models.

The system of acquisition makes it possible to program each parameter and transfer to a PC the data saved into the unit. The recorded data can be viewed either as a graph or as a table.

Fig. 1-1 AMS-8063-00 or AMS-8063-01 Area Monitor System

1.3 Standard accessories

1.3.1 Standard accessories AMS-8063-00

Standard accessories included with the AMS-8063-00 are:

The baseplate includes:
- EHP-8063 Field Analyzer;
- EHP-8063 power supply cable
- 8063-Shutter
- Wi-Fi Serial Converter;
- Rx/Tx cable;
- FO-8053/1 optical fiber (1m);
- Air filter
- Radome with 4pcs. Torx screws M5x16mm and 4 pcs. plastic washer;

Other accessories:
- Solar panels;
- Battery Pack;
- Fuse
- AC/DC Converter with plug adapters;
- Operating Manual;
- Certificate of Compliance;
- Return for Repair Form;
- Software Media;
- Torx Allen Key;
- Reversible screwdriver
- 13mm Combination Wrench
- 7mm Combination Wrench
- Mast;
- Weight bags;
- Mounting kit.

**1.3.2 Standard accessories
AMS-8063-01**

Standard accessories included with the AMS-8063-01 are:

The baseplate includes:
- EHP-8063 Field Analyzer;
- EHP-8063 power supply cable;
- 8063-Shutter
- RS232 cable;
- USB-RS232 serial converter;
- Rx/Tx cable;
- FO-8053/1 optical fiber (1m);
- Air filter
- Radome with 4pcs. Torx screws M5x16mm and 4 pcs. plastic washer;

Other accessories:
- Solar panels;
- Battery Pack;
- Fuse
- AC/DC Converter with plug adapters;
- Operating Manual;
- Certificate of Compliance;
- Return for Repair Form;
- Software Media;
- Torx Allen Key;
- Reversible screwdriver
- 13mm Combination Wrench
- 7mm Combination Wrench
- Mast;
- Weight bags;
- Mounting kit.

1.3.3 Standard accessories AMS-8063-02

Standard accessories included with the AMS-8063-02 are:

The baseplate includes:
- EHP-8063 Field Analyzer;
- EHP-8063 power supply cable;
- 8063-Shutter
- Optical / Serial Converter;
- Rx/Tx cable
- FO-8053/1 optical fiber (1m);
- FO-8063/02 external long link fiber optic cable (5m) for service
- Air filter
- Radome with 4pcs. Torx screws M5x16mm and 4 pcs. plastic washer;

Other accessories:
- Battery Pack;
- Fuse;
- AC/DC Converter with plug adapters;
- Operating Manual;
- Certificate of Compliance;
- Return for Repair Form;
- Software Media;
- Torx Allen Key;
- Reversible screwdriver
- 13mm Combination Wrench
- Mast;
- Weight bags;
- Mounting kit.
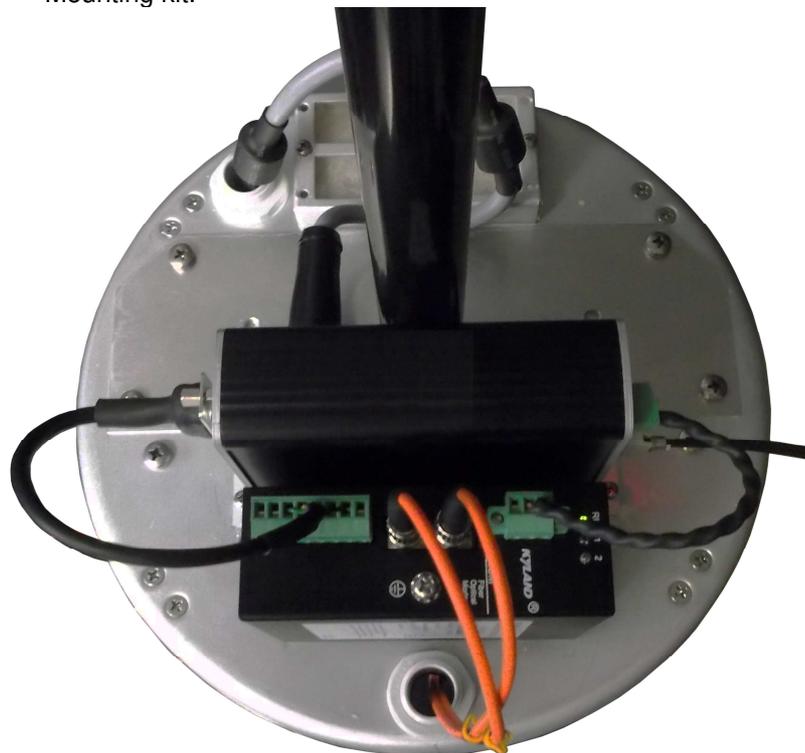
Fig. 1-2 AMS-8063-02 receiver baseplate

1.4 Optional accessories Accessories supplied separately (on charge) for all models:

- AMS-8063/WMK Wall Mounting Kit;
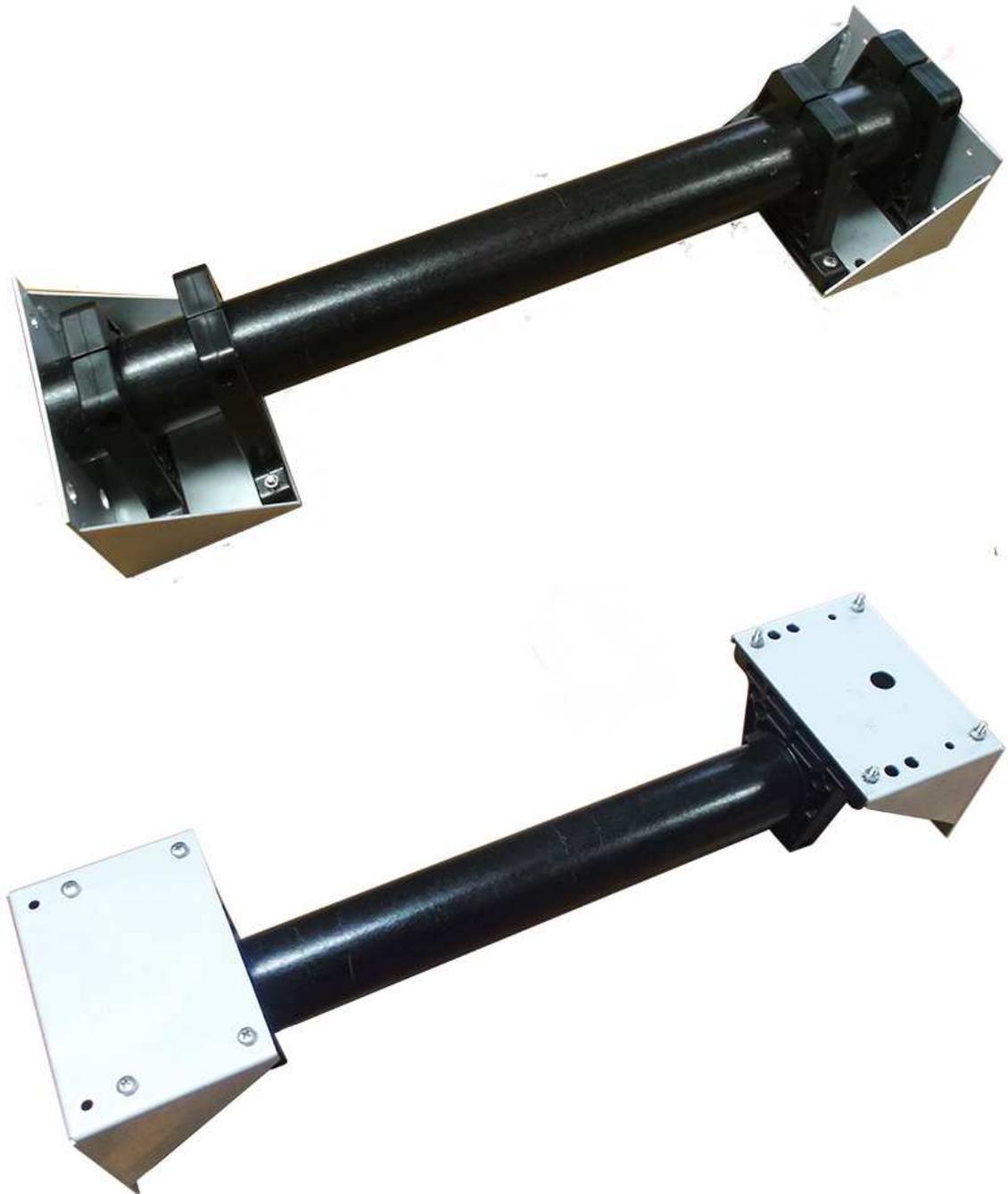
1.5 AMS-8063   The AMS-8063 Area Monitor System includes:

1) EHP-8063 Field Analyzer;
2) EHP-8063 plexiglass bracket;
3) EHP-8063 support pole;
4) Baseplate with data transmission and power supply devices; it is shown AMS-8063-02 in the figure below;
5) Solar panels (AMS-8063-00 and AMS-8063-01 only);
6) Battery pack and support base.
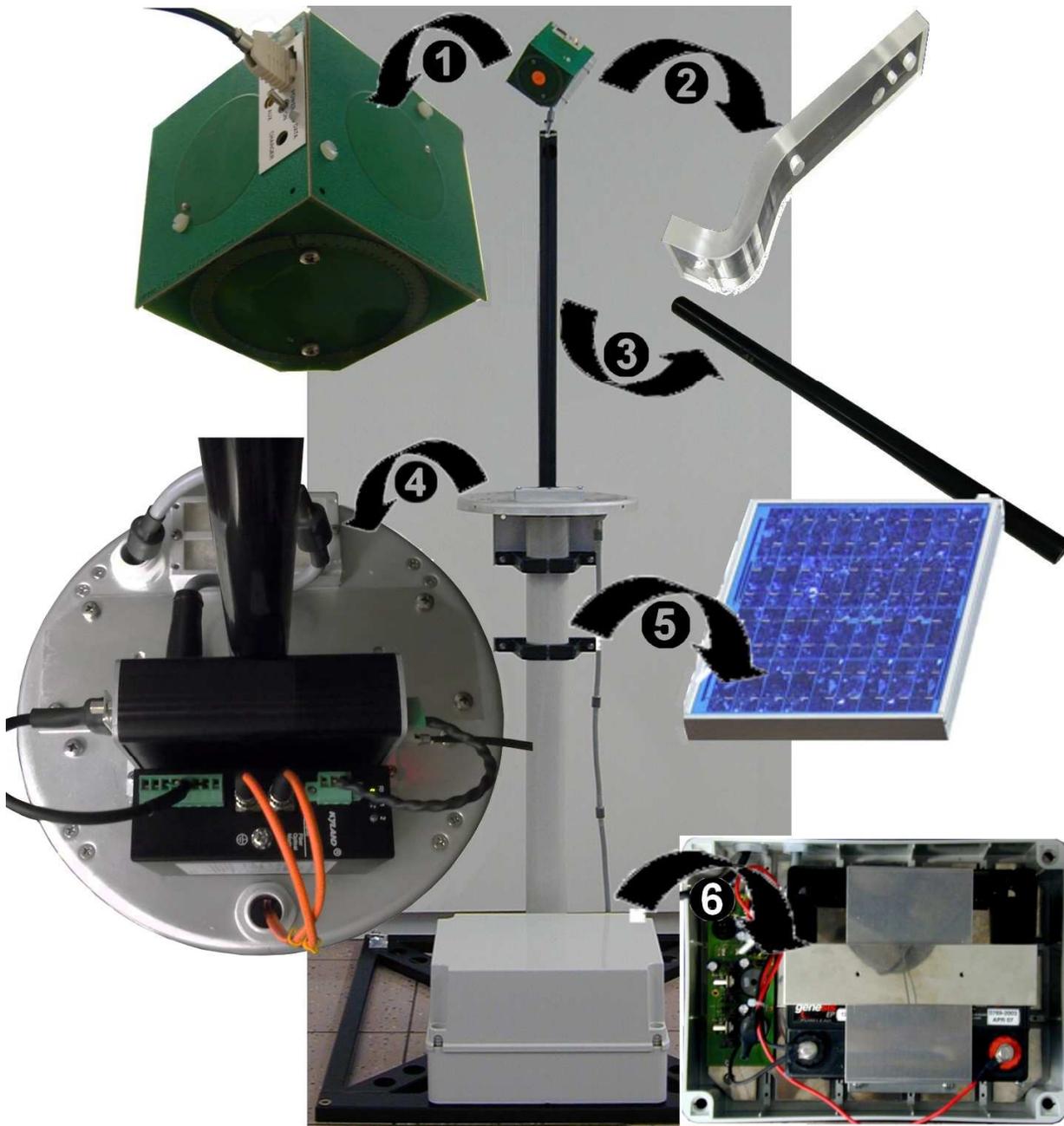
1.6 Main Specifications   Tables 1-1 – 1-2 list the specifications of all models.

Table 1-1 - Technical Specifications of the AMS-8063

Measuring range

Frequency range	9 kHz - 30 MHz
Measurement range	0.1 - 1000 V/m (from 9 kHz to 30 MHz) 0.03 - 300 A/m (from 9 kHz to 3 MHz) 0.003 - 30 A/m (from 300 kHz to 30 MHz)
Resolution	0.01 V/m, 0.1 mA/m
Sensitivity	0.01 V/m (depending on the RBW filter)
Measurement units (through software PC)	V/m, A/m
Measured field	Electric and magnetic

Measurement/acquisition functions

Storing interval	Table mode: selectable from 1 to 1440 minutes Spectrum mode → selectable 10, 15, 30 minutes or 1, 2, 3, 4, 5, 6, 12, 24 Hours or exceeding threshold setting
Functions	Spectrum Mode; Frequency Table, AVG, RMS
LOG file	All operations are written in a LOG file
Zoom	Horizontal
Firmware upgrade	Remote by PC
Software upgrade	free, download from NARDA Web site: www.narda-sts.it

TABLE 1-2 General Specifications of the AMS-8063

Communication	Wireless LAN 802.11b 2.4 GHz (AMS-8063-00) RS 232 (AMS-8063-01) Optical Fiber converter / RS232 (AMS-8063-02)
Battery pack	Backup sealed Pb rechargeable battery, 12 V 32 Ah
Solar panels	2x40W 17.5V (AMS-8063-00 and AMS-8063-01 only)
Consumption	4W
External power supply	100…240 V, 50/60 Hz to 24 VDC, 1.25A
Autonomy with batteries only	> 48 Hours
Autonomy with Solar panel	24 Hours / 365 days for PSH ≥ 2
Recharge time	> 12 Hours with external power supply
Operating temperature	-20 °C to +55 °C

Dimensions
Radome (ØxH)	250x740 mm
Pole (ØxH)	60x760 mm
Base (LxPxH)	660x600x95 mm
Battery pack (LxPxH)	310x240x190 mm
Solar panels (LxPxH)	930x35x665 mm

Weight

AMS-8063-00   3,5 kg only the unit;
35.0 kg total weight inclusive of supports and base

AMS-8063-01   3,0 kg only the unit;
35.0 kg total weight inclusive of supports and base

AMS-8063-02   3,5 kg only the unit;
26.5 kg total weight inclusive of supports and base

Protection grade   IP54

1.7 EHP-8063

EHP-8063 is housed in a small cubic housing; the bottom side panel includes an optic fiber connector, ON/OFF level switch and operation LED.

EHP-8063 is managed internally with a microprocessor that controls all the main functions.
Electric or Magnetic field is picked up by three sensors on the X, Y and Z orthogonal axes. A Digital/Analog conversion follows which transforms the signal into numeric information processed by a Digital Signal Processing unit.

The magnetic sensor system is composed by three magnetic loops positioned orthogonal each other. The electric sensor system is composed by three orthogonal parallel capacitors installed on opposite side of the magnetic loops.

EHP-8063 has an internal rechargeable Ni-Mh battery that can be recharged with the battery pack.

Fig. 1-3 Panel of EHP-8063

Key:
DATA: Led
POWER ON: switches EHP-8063 on/off
OPTIC LINK: Fiber optic connector
CHARGER: Not available
AUX: Not available

⚠️ **WARNING**

Correct readings may be conditioned by the nature of the places in which the field monitoring system is installed.
The field sensor is affected by huge metallic masses or other objects that may reflect the signal, if located in the vicinity of the unit.
Whenever possible, it is a good rule to install the unit at some distance from walls, high voltage pylons, buildings and other obstacles that could affect the signals reaching the sensor.

⚠️ **WARNING**

EHP-8063 is automatically detected by the control system integrated in the AMS-8063, so it is not necessary to perform any operation.

⚠️ **WARNING**

Do not expose the EHP-8063 to a field higher than the max. allowed.
Field strengths exceeding the allowed may cause severe probe damage whether it is connected or not, either turner ON or OFF.

⚠️ **WARNING**

When opening the protective case of the monitoring station, to avoid damages, remove along its axis the protective case from probe.

👉 **NOTE**

The minimum voltage level for operation is 3V. Under this battery voltage the analyzer will turn OFF automatically and the battery will be charged.

Table 1-3 Technical specifications of the EHP-8063 Electric and Magnetic Field Analyzer			
	Electric Field	**Magnetic Field Mode A**	**Magnetic Field Mode B**
Frequency range	9 kHz ÷ 30 MHz	9 kHz ÷ 3 MHz	300 kHz ÷ 30 MHz
Measurement range @10kHz RBW **with preamplifier ON**	0,1 ÷ 1000 V/m 0,02 ÷ 200 V/m	30 mA/m ÷ 300 A/m 6 mA/m ÷ 60 A/m	3 mA/m ÷ 30 A/m 0.6 mA/m ÷ 6 A/m
Dynamic range	> 80 dB		
Resolution	0.01 V/m	1 mA/m	0.1 mA/m
Sensitivity @10kHz RBW (*) **with preamplifier ON**	0.1 V/m 0.02 V/m	30 mA/m 6 mA/m	3 mA/m 0.6 mA/m
Flatness	0,5 dB 100 kHz – 27 MHz @ 20 V/m	0,8 dB 150 kHz – 3 MHz @ 166 mA/m	0,8 dB 300 kHz – 27 MHz @ 53 mA/m
Anisotropicity @1MHz	0.8 dB		
Linearity @1MHz	0,5 dB from FS to –60 dBFS		
SPAN	9 kHz to FULL SPAN		
RBW	1 kHz – 3 kHz – 10 kHz – 30 kHz – 100 kHz – 300 kHz		
Rejection to E fields	---	> 20 dB	
Rejection to H fields	> 20 dB	---	
Calibration	internal E^{2}PROM		
Temperature error	0,02 dB/°C		
Dimensions	92 x 92 x 109 mm		
Weight	550 g		
Preamplifier	selectable ON/OFF, 14dB		
Units	V/m, A/m		
Internal battery	1,2 V x 3 Ni-Mh, rechargeable		
Firmware updating	through PC connection		
Self-test	automatic at power on		
Operating temperature	-20 to +55°C		
Storage temperature	-20 to +70°C		

(*) The maximum sensitivity is achieved with the filter to 10 kHz

1.8 Support pole   The supplied support pole is used to position the EHP-8063 field analyzer far from the data transmission/power supply devices and the operator avoiding any alteration of the field to be monitored.
The support pole is fixed to the baseplate and to the EHP-8063 plexiglass bracket.

⚠ WARNING   **The support pole has been specifically designed to prevent influencing the field measurements.**

2 - Installation and use

2.1 Introduction

This section provides the information necessary to install and use the AMS-8063 Area Monitoring System.

It also includes information regarding initial inspection, power requirements, interconnections, working environment, assembly, cleaning, storage and shipment.

2.2 Initial inspection

Inspect the package for any possible damage

⚠ **WARNING**

If the packaging or protective material are damaged, check that the content is complete and that the instrument has not been damaged in any of its electrical or mechanical parts. Check the accessories, referring to the checklist enclosed with the manual. Report any noticed damage to the forwarder and to NARDA.

2.3 Working environment

The working conditions for the instrument are as follows:

- Temperature   From -20°C to +50°C
- Relative humidity   < 95%

The instrument should be stored in a clean, dry place free of acids, dust and moisture

The storage environment must have the following specifications

- Temperature   From -20°C to + 70°C
- Relative humidity   < 99%
- Altitude   Up to 4000 m (a.s.l.)

2.4 Return for repairs

Any part of the instrument, including the batteries, can only be replaced by NARDA, therefore, in case of damage to parts and/or malfunctions, contact the NARDA service center.

When the instrument has to be returned to NARDA for repairs, please complete the form included in this User's Manual, filling in all the information necessary for the service requested.

To reduce the time necessary for the repair, be as specific as possible in describing the malfunction. If the problem only occurs under specific conditions, detail in the best possible way how to reproduce these conditions.

Whenever possible, it is preferable to use the original packing for return, making sure to wrap the device in heavy paper or plastic (see section 6 for detailed packaging instructions). In alternative, pack the equipment in a sturdy cardbox with plenty of impact absorbing material all around the equipment, to ensure a tight fit and prevent it from moving inside the box. Take special precautions to protect the solar cells and GSM modem antenna. Seal the package securely and write FRAGILE on the outside to encourage careful handling.

2.5 Cleaning   Use a clean, soft, dry cloth to clean the instrument and the solar cells.

⚠ WARNING **It is suggested to replace air filter at least once a year or more frequently if needed.**

⚠ WARNING **To clean the instrument do not use solvents, acids, cleaning fluid, turpentine, acetone or similar products which could damage it.**

2.6 Installation and use   The AMS-8063 Area Monitor consist of a protective case made of material that is transparent to electromagnetic fields and designed to house the EHP-8063 E-H fields analyzer and the data transmission/power supply devices.

NOTE **The AMS-8063-00 e AMS-8063-01 models are powered by high capacity back-up batteries and solar panels (twin pair).**

NOTE **Model AMS8063-02 don't have the solar panel module.**

2.6.1 Installation of AMS-8063-00

1. Connect and set the PC and all devices to the network.
2. Install the Support base on the site to be monitored **(§ 2.6.4).**
3. Install the Solar panels paying attention to orienting toward south (in the northern boreal hemisphere) the solar cells **(§ 2.6.5.1, § 2.6.5.2 and § 2.6.5.3).**
4. Connect the Solar panels and place the fuse **(§ 2.6.5.4).**
5. Mount the receiver unit on the pole and tight the screws at the desired position **(§ 2.6.7);**
6. Remove the four screws and take off along its axis the protective case from the monitoring unit (**§ 2.6.8**);
7. Connect the Battery pack power cable (**§ 2.6.9**).
8. Check the both LEDs 8063-Shutter status (**§ 2.6.10**).
9. Check the Led WiFi device status (**see the User's Manual provided with the device**)

10. Be sure that the fiber optic is well connected to the Optic link of the EHP-8063.
11. Make sure that the EHP-8063 plexiglass bracket is fixed to the EHP-8063 and support base.
12. Make sure that the support base is fixed to the baseplate.
13. Be sure that the battery pack power cable is well connected to the 8063-Shutter.
14. Be sure that the fiber optic is well connected to the 8063-Shutter.

15. Switch the EHP-8063 on (**§ 2.6.12**).
16. Check the Led EHP-8063 status (**§ 2.6.13**).
17. Insert along its axis the protective case and tight the four screws to fix the Radome (**§ 2.6.15**).
18. Install the strays and the ballast bags (**§ 2.6.16**).
19. Complete a charge cycle before starting measurements (**§ 2.6.17**).
20. Run the 8063SW02 software **(chapter 3)**
21. Display and manage of the data downloaded **(chapter 4).**

2.6.2 Installation of AMS-8063-01

1. Connect and set the PC and all devices to the network.
2. Install the Support base on the site to be monitored **(§ 2.6.4).**
3. Install the Solar panels paying attention to orienting toward south (in the northern boreal hemisphere) the solar cells **(§ 2.6.5.1, § 2.6.5.2 and § 2.6.5.3).**
4. Connect the Solar panels and place the fuse **(§ 2.6.5.4).**
5. Mount the receiver unit on the pole and tight the screws at the desired position **(§ 2.6.7);**
6. Remove the four screws and take off along its axis the protective case from the monitoring unit (**§ 2.6.8**);
7. Connect the Battery pack power cable (**§ 2.6.9**).
8. Connect the RS-232 cable
9. Check the both LEDs 8063-Shutter status (**§ 2.6.10**).

10. Be sure that the fiber optic is well connected to the Optic link of the EHP-8063.
11. Make sure that the EHP-8063 plexiglass bracket is fixed to the EHP-8063 and support base.
12. Make sure that the support base is fixed to the baseplate.
13. Be sure that the battery pack power cable is well connected to the 8063-Shutter.
14. Be sure that the fiber optic is well connected to the 8063-Shutter.

15. Switch the EHP-8063 on (**§ 2.6.12**).
16. Check the Led EHP-8063 status (**§ 2.6.13**).
17. Insert along its axis the protective case and tight the four screws to fix the Radome (**§ 2.6.15**).
18. Install the strays and the ballast bags (**§ 2.6.16**).
19. Complete a charge cycle before starting measurements (**§ 2.6.17**).
20. Run the 8063SW02 software **(chapter 3)**
21. Display and manage of the data downloaded **(chapter 4).**

**2.6.3 Installation of AMS-8063-02**

1. Connect and set the PC and all devices to the network.
2. Install the Support base on the site to be monitored **(§ 2.6.4).**
3. Remove the Power pack cover and place the fuse **(§ 2.6.6)**
4. Mount the receiver unit on the pole and tight the screws at the desired position **(§ 2.6.7);**
5. Remove the four screws and take off along its axis the protective case from the monitoring unit (**§ 2.6.8**);
6. Connect the Battery pack power cable (**§ 2.6.9**).
7. Connect the AMS-8063-02 Interface box to the PC by USB cable
8. Connect the power supply cable to the AMS-8063-02 Interface box
9. Connect the Interface box to the AMS-8063-02 Area Monitor Station by fiber optic paying attention to the correct correspondence. (**§ 2.6.14**).

10. Check the both LEDs 8063-Shutter status (**§ 2.6.10**).
11. Be sure that the fiber optic is well connected to the Optic link of the EHP-8063.
12. Make sure that the EHP-8063 plexiglass bracket is fixed to the EHP-8063 and support base.
13. Make sure that the support base is fixed to the baseplate.
14. Be sure that the battery pack power cable is well connected to the 8063-Shutter.
15. Be sure that the fiber optic is well connected to the 8063-Shutter.
16. Be sure that the fiber optic is well connected to the AMS-8063-02 Interface box

17. Switch the EHP-8063 on (**§ 2.6.12**).
18. Check the Led EHP-8063 status (**§ 2.6.13**).
19. Switch the AMS-8063-02 Interface box on (**§ 2.6.14**).
20. Insert along its axis the protective case and tight the four screws to fix the Radome (**§ 2.6.15**).
21. Install the strays and the ballast bags (**§ 2.6.16**).
22. Complete a charge cycle before starting measurements (**§ 2.6.17**).
23. Run the 8063SW02 software **(chapter 3)**
24. Display and manage of the data downloaded **(chapter 4).**

2.6.4 Support base, feet and pole

Install the Support base on the site to be monitored.

Correct readings may be conditioned by the nature of the places in which the AMS-8063 Area Monitor System is installed.
The field measuring is affected by huge metallic masses or other objects that may reflect the signal, if located in the vicinity of the unit. Whenever possible, it is a good rule to install the unit at some distance from walls, high voltage pylons, buildings and other obstacles that could affect the signals reaching the sensor.

⚠ WARNING

Whenever possible, it is a good rule to install the unit at some distance from walls, buildings and other obstacles that could affect the wireless signals reaching the WiFi device (AMS-8063-00 only)

⚠ WARNING

Screw the four adjustable feet under the support base.

Remove the bolt from the pole support, place the pole and fasten it to the base using the bolt with nut and washers.

⚠ **WARNING**

Using the supplied pole, whose characteristics have been carefully assessed, is recommended to avoid any alteration of the field to be monitored.

2.6.5 Solar panels (AMS-8063-00 and AMS-8063-01)

2.6.5.1 Solar panels mounting kit

The accessories included are:

1) 40W Solar panel (2 pcs);
2) Hexagon head bolt M4x10mm (4 pcs.);
3) **Upper L shaped bracket (1 pc.);**
4) Tooth washer Ø4mm (4 pcs.);
5) M4 nut (4 pcs.);
6) M5 nut (2 pcs.);
7) Tooth washer Ø5mm (2 pcs.);
8) M5 nut (2 pcs.);
9) Tooth washer Ø5mm (2 pcs.);
10) **S shaped bracket (1 pc.);**
11) Pan head machine screw X shaped M5x10mm (2 pcs.);
12) **PA6 black bracket (1 pc.);**
13) Pan head machine screw X shaped M5x25mm (2 pcs.);
14) Hexagon head bolt M4x10mm (2 pcs.);
15) Hexagon head bolt M8x12mm (2 pcs.);
16) Pan head machine screw X shaped M4x16mm (2 pcs.);
17) **Lower support (1 pc.);**
18) M8 nut (2 pcs.);
19) Tooth washer Ø4mm (2 pcs.);
20) Tooth washer Ø4mm (2 pcs.);
21) M4 nut (2 pcs.);
22) M4 nut (2 pcs.);
- 13mm combination wrench;
- 7mm combination wrench;
- Reversible screwdriver.
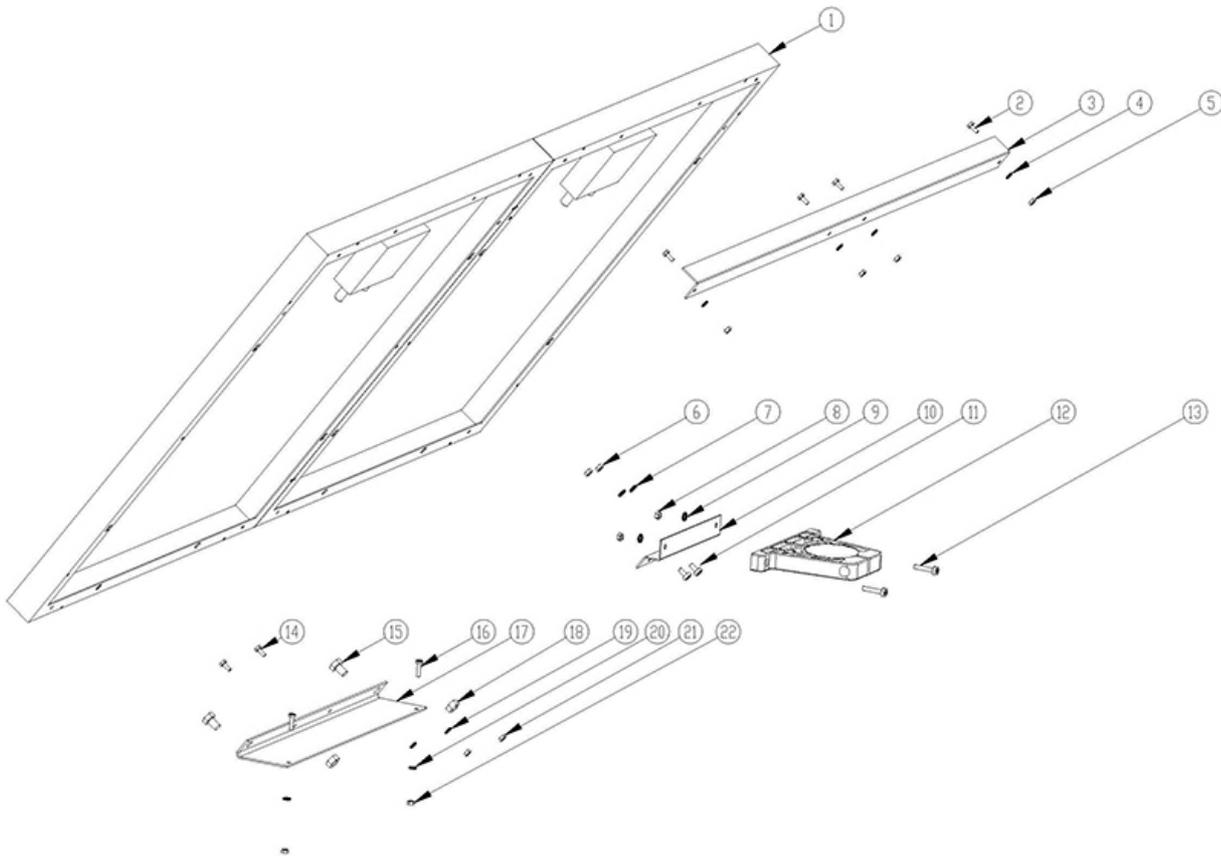
2.6.5.2 Installation steps

Upper L shaped bracket
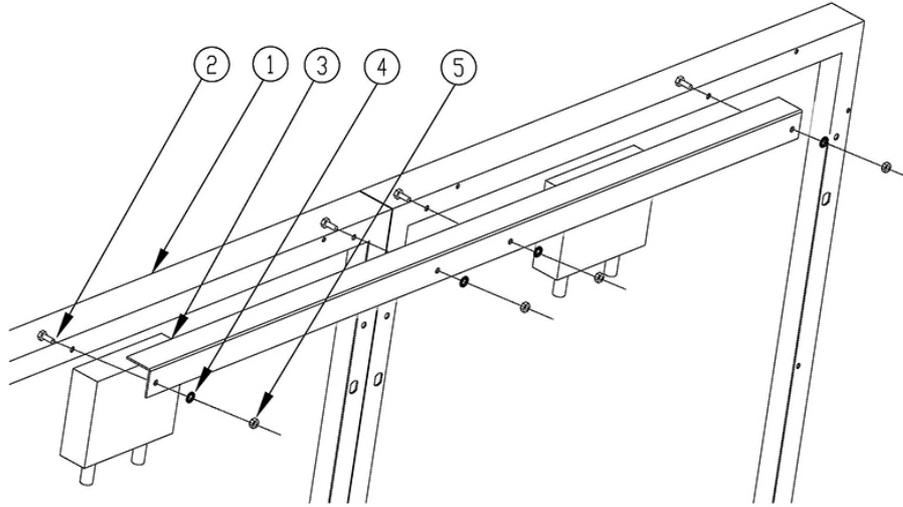
S shaped bracket and PA6 black bracket
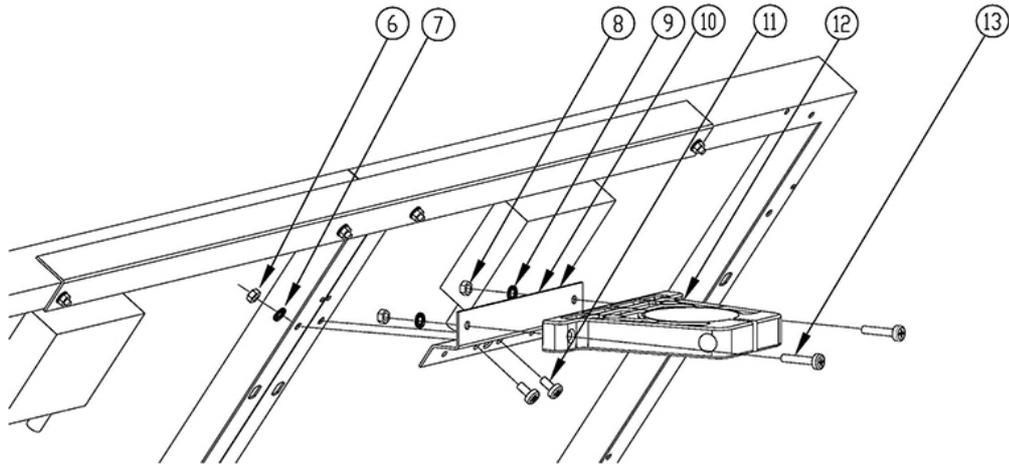
Lower support
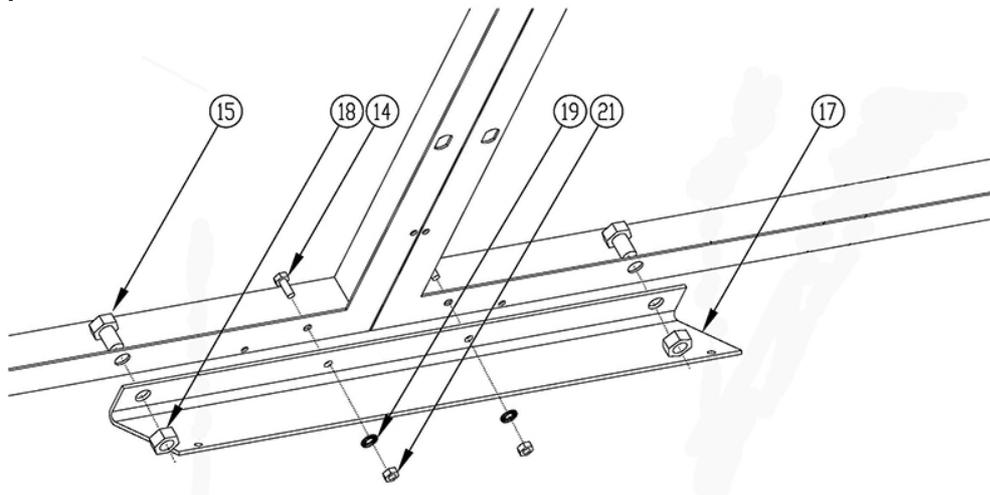
2.6.5.3 Install the Solar panel to the Support base

Unscrew the Pan head screw inside the PA6 black bracket without losing it completely.

Insert and slide the Solar panel into the fiberglass pole and position the lower support on the base

Position the Solar panel and the Support base on the ground as shown and install the lower support.

Install the lower support to the support base with the 2 pcs. Pan head machine screw X shaped M4x16mm (16), 2 pcs. Tooth washer Ø4mm (20) and 2 pcs M4 nut (22) remaining.

Position the Solar panel and the Support base on the ground as shown below.

⚠ WARNING

In the northern (boreal) hemisphere, the Area Monitor System should be installed with the solar cells facing south, in order to take the best advantage of the solar radiation for continuous recharging of the internal batteries. An angle around of 35° with respect to vertical is the ideal position for the solar cells to optimize solar radiation in the European latitudes, specially in winter when the light levels are generally lower than in summer.

⚠ WARNING

To ensure maximum efficiency in recharging the battery and to take advantage of the maximum operating autonomy, make sure the position in which the unit is installed receives sunlight all the day long and is not shaded by buildings or other screening objects.

⚠ WARNING

To ensure maximum efficiency of recharging and optimum autonomy of the internal batteries, it is a good rule to keep the solar cells clean, inspecting them periodically.
If necessary, clean them with a soft cloth and a normal glass cleanser

Fasten the Solar panel by tightening the bracket screws

2.6.5.4 Solar panel wiring and fuse

Remove the Power Pack cover

Remove the nut from the chock of the solar panel cable.

Thread the cable through the hole in the box and screw the nut to fasten the chock to the Power Pack.
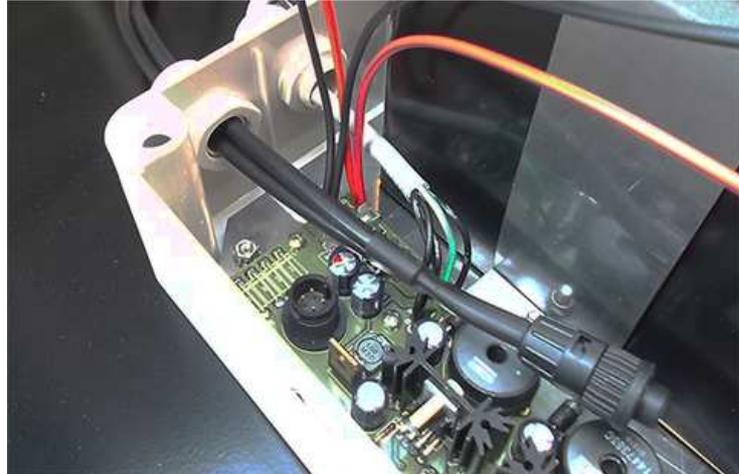
Place the fuse.

Plug the solar panel connector.

Close the Power Pack box

**2.6.6 Battery pack
wiring and fuse
(AMS-8063-02 only)**

Remove the Power Pack cover

Remove the nut from the chock of the power supply cable.

Thread the cable through the hole in the box and screw the nut to fasten the chock to the Power Pack.
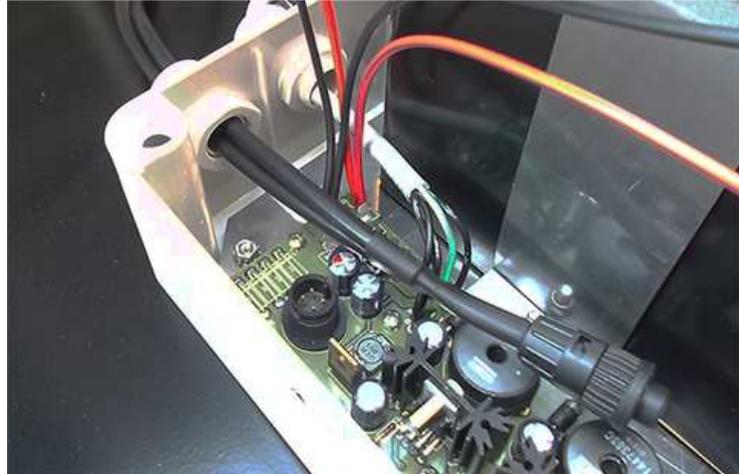
Place the fuse.

Plug the power supply connector.

Close the Power Pack box

2.6.7 Baseplate mounting

Before mounting the baseplate on the pole, unscrew the Pan head screw inside the both PA6 black brackets without losing it completely.

Mount the receiver unit on the pole.

Fasten the unit by tightening the bracket screws.

2.6.8 Radome opening   Remove the screws from the receiver baseplate to allow the Radome removing.

Remove along its axis the protective case

NOTE

Considering that it has been designed for outdoor use and the main operations are generally performed remotely.
Controls and connections are available inside the protective case as listed onward in this manual and can be reached by removing the station Radome or the power pack cover.

2.6.9 Battery pack power cable

Remove the nut from the chock of the power cable.

Install the power cable by mounting the chock in the hole of the receiver baseplate, plug the power supply connector to the Data/Power supply box holding by the plastic part and check the status LEDs.

2.6.10 Led LEDs 8063-Shutter status

Both LEDs let the user know about the state of process as shown in the following table.

<table>
<tr><th colspan="3">Table 2-1 Led 8063-Shutter status</th></tr>
<tr><th>Led status</th><th>LEDs</th><th>Action</th></tr>
<tr><td>Steady</td><td>Red</td><td>EHP-8063 recharging battery</td></tr>
<tr><td>Steady</td><td>Green</td><td>EHP-8063 Battery recharging completed</td></tr>
<tr><td>off</td><td>off</td><td>Communication between PC and EHP-8063 in progress and correct.
(the battery is not charging)</td></tr>
</table>

NOTE **If the communication with the PC is not successful, the EHP-8063 will automatically be charged after about 3 minutes.**

2.6.11 Led WiFi serial converter status (AMS-8063-00 only)

The LED let the user know about the state of the WiFi serial converter (for further information see the User's manual provided with the device).

2.6.12 Switch EHP-8063 on

Switch EHP-8063 on using the level switch

2.6.13 Led EHP-8063 status

When switched on, the three-color **ON DATA** LED will provide the following information:
After switching on the analyzer, the **ORANGE** LED lights up for about ½ second as an auto-check, after that the **Green** light starts blinking which means that the firmware has been correctly downloaded.

<table>
<tr><th colspan="3">Table 2-2 Led EHP-8063 status</th></tr>
<tr><th>Led status</th><th>LEDs</th><th>Action</th></tr>
<tr><td>Blinking</td><td>Red</td><td>The EHP-8063 is switch on but the communication with PC is disconnected.</td></tr>
<tr><td>Blinking</td><td>Green</td><td>The EHP-8063 is switch on and the communication with PC in progress and correct.</td></tr>
</table>

NOTE **The EHP-8063 can be switched off manually by means of level switch. When switch EHP-8063 on for the first time only, it is in charging mode for 3 minutes and can not communicate with the PC.**

2.6.14 AMS-8063-02 Interface box

Switch AMS-8063-02 Interface box on using the green push-button on the front panel.

Connect the Interface box to the AMS-8063-02 Area Monitor Station by fiber optic paying attention to the correct correspondence in both side.

Fiber optic on
AMS-8063-02 interface box side
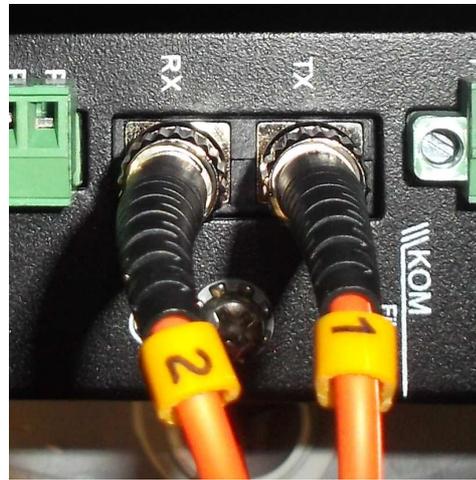
Fiber optic on
AMS-8063-02 Area Monitor side

Install the Fiber optic on the AMS-8063-02 Area Monitor station side by mounting the chock in the hole of the receiver baseplate, plug the Fiber optic to the Optical converter holding by the metallic part.

2.6.15 Radome mounting

Insert along its axis the protective case and tight the four screws to fix the Radome

2.6.16 Bags

The AMS-8063 is usually installed outdoors where atmospheric agents, especially strong winds, can endanger its stability.

To ensure the necessary stability under the worst possible conditions, the unit is supplied with three ballast bags that can be filled with water or sand and fastened to the base of the mast.

Fasten the ballast bags to the mast using the plastic straps.

The AMS-8063 installation is completed.

2.6.17 Battery charging A complete battery charging should be completed before starting measurements.

Lead batteries are located within the power pack on the support base and automatically recharged by the solar panels (if connected) or by an external power source.
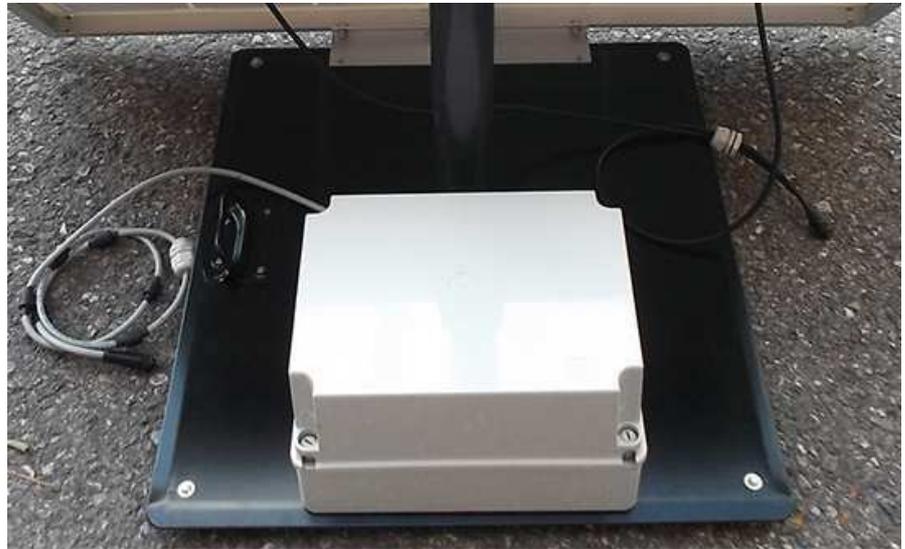
WARNING

AMS-8063 power system includes high quality lead batteries which provide very good performance even in the voltage, current and temperature most severe condition. Nevertheless, as happens in all lead accumulators, capacity is influenced by temperature. Best performance are achieved around 20°C.

WARNING

The lead batteries with a nominal voltage of 12 V can be damaged if left for a long period with voltage below 11,58 V.
Below this value chemical processes that could damage them begin. The AMS-8063 batteries apply a technology to reduce this phenomenon.
Furthermore the supply circuit disconnect the load (switching the unit off) when the battery voltage is low.
Anyway, if not used, the station should be switched off.
Battery should be recharged if the station has not to be used for a long period.

WARNING

Any part of the instrument can only be replaced by NARDA, therefore, in case of damage to parts and/or malfunctions, contact the NARDA service center.

Remove the Power Pack cover.

Disconnect the solar panel from the Power Pack removing the chock.

Connect the provided power supply/battery charger for a complete charge.

Plug the battery charger with the proper adapter to the mains outlet before connect the multipole connector to the Power pack.


Fasten the cable to the strain relief.

Thread the cable through the hole in the box and screw the nut to fasten the chock to the Power Pack.
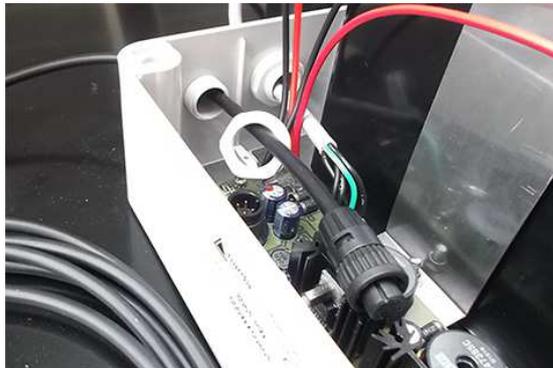
Plug the multipole battery charger connector to the Power pack.
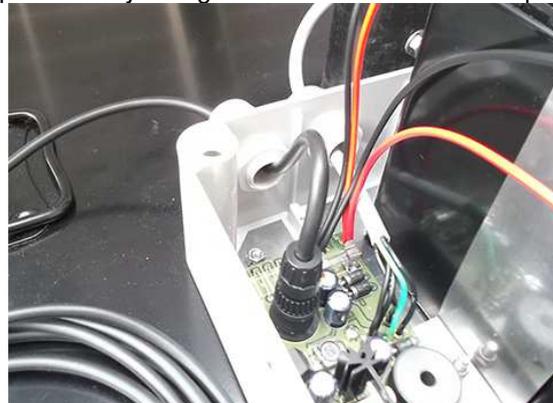
Close the Power Pack cover

2.6.18 External power supply

Execute the following wiring in the case an external power supply is requested during measurements.

Remove the Power Pack cover.

Disconnect the solar panel from the Power Pack removing the chock

Connect the provided power supply/battery charger.

⚠ WARNING

Plug the battery charger with the proper adapter to the mains outlet before connect the multipole connector to the Power pack.

Fasten the cable to the strain relief.

Thread the cable through the hole in the box and screw the nut to fasten the chock to the Power Pack.
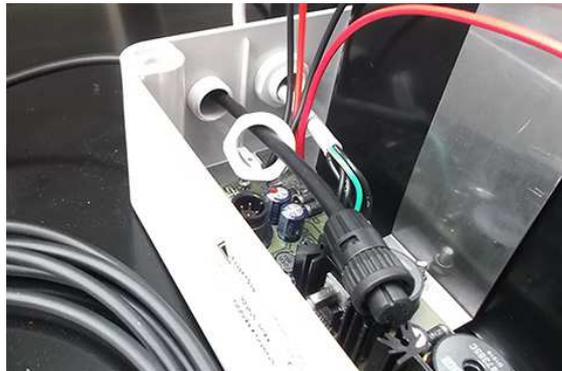
Plug the multipole power supply connector to the Power pack
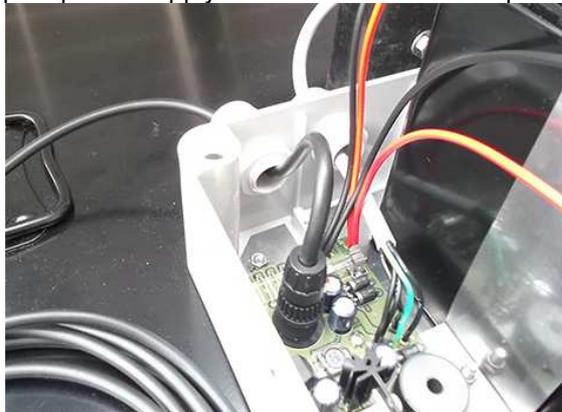
Close the Power Pack cover

2.7 AMS-8063-00 Operating principle

The Wi-Fi Serial Converter changes the AMS-8063 into Wi-Fi device through a RS-232 serial port on DB9 connector.
The PC handles the AMS-8063 through the access point (AP) that allows the connection to a WLAN network.
The Wi-Fi Serial Converter is supplied by the 8063-Shutter through the appropriate pin on terminal block.

NOTE

For further information see the User's Manual provided with the Wi-Fi device.

⚠ WARNING

Whenever possible, it is a good rule to install the unit at some distance from walls, buildings and other obstacles that could affect the field measuring and the wireless signals reaching the WiFi device

8063SW02

Station 1   Station 2   Station 3

In this configuration the PC performs a continued and cyclical check of the three stations (*Station1, Station2 e Station3*): the station queried measures the electric and/or magnetic field value for each frequency stored in the **Frequency Table** (the battery is not charged to not affect the field value and both 8063-Shutter LEDs are switched off).

If the station's battery runs out, it will be charged automatically (the 8063-Shutter red led switches on); when the battery recharging is completed the green led is on.

If a station is not connected or the communication is not established, the EHP-8063 will be automatically in charging mode.

NOTE

The EHP-8063 can be switched off manually by means of level switch. When switch EHP-8063 on for the first time only, it is in charging mode for 3 minutes and can not communicate with the PC.

The connection is reestablished when the battery voltage will be above 3,05 V.

The PC handles the AMS-8063 through the 8063SW02 software.

2.8 AMS-8063-01 Operating principle

The 8063-Shutter changes the AMS-8063 into RS-232 device through a RS-232 serial port on DB9 connector.
The PC handles the AMS-8063 through the RS232 cable.

⚠ WARNING

Whenever possible, it is a good rule to install the unit at some distance from walls, buildings and other obstacles that could affect the field measuring.

In this configuration the PC performs a continued and cyclical check of the three stations (*Station1, Station2 e Station3*): the station queried measures the electric and/or magnetic field value for each frequency stored in the **Frequency Table** (the battery is not charged to not affect the field value and both LEDs 8063-Shutter are switched off).

If the station's battery runs out, it will be charged automatically (the 8063-Shutter red led switches on); when the battery recharging is completed the green led is on.

If a station is not connected or the communication is not established, the EHP-8063 will be automatically in charging mode.

NOTE

The EHP-8063 can be switched off manually by means of level switch. When switch EHP-8063 on for the first time only, it is in charging mode for 3 minutes and can not communicate with the PC.

The connection is reestablished when the battery voltage will be above 3,05 V.

The PC handles the AMS-8063 through the 8063SW02 software.

2.9 AMS-8063-02 Operating principle

The Optical Serial converter changes the AMS-8063 into optic device through an optic link port; it is supplied by the 8063-Shutter through the appropriate pin on terminal block.
The PC handles the AMS-8063 through the AMS-8063-02 Interface box that allows a long optical connection.
The AMS-8063-02 Interface box is connected to PC by USB cable.

⚠ WARNING

Whenever possible, it is a good rule to install the unit at some distance from walls, buildings and other obstacles that could affect the field measuring.

In this configuration the PC performs a continued and cyclical check of the three stations (*Station1, Station2 e Station3*): the station queried measures the electric and/or magnetic field value for each frequency stored in the **Frequency Table** (the battery is not charged to not affect the field value and both LEDs 8063-Shutter are switched off).

If the station's battery runs out, it will be charged automatically (the 8063-Shutter red led switches on); when the battery recharging is completed the green led is on.

If a station is not connected or the communication is not established, the EHP-8063 will be automatically in charging mode.

☞ NOTE

The EHP-8063 can be switched off manually by means of level switch. When switch EHP-8063 on for the first time only, it is in charging mode for 3 minutes and can not communicate with the PC.

The connection is reestablished when the battery voltage will be above 3,05 V.

The PC handles the AMS-8063 through the 8063SW02 software.

3 – 8063SW02 - User's Guide

3.1 Introduction

This Chapter provides a guide for the installation and use of the data acquisition and control software 8063SW02.
It also explains the functions available and the configuration details.

The 8063SW02 software is a control program fully integrated into the AMS-8063 Area Monitor System.

The 8063SW02 software features the following basic functions:
- Changing measurement and storing settings;
- Querying and monitoring all the AMS-8063 installed and enabled;
- Acquisition and display of electric and/or magnetic field values on the PC;
- Downloading data with automatic generation of graph (.JPG or .BMP) and table (.TXT) to be used for easy data exchange with any "Office" applications;
- Controlling and verifying the reliability of the data recorded.

3.2 Hardware requirements

To ensure the proper operations of the 8063SW02 software, the minimum hardware requirements of the Personal Computer are:
- Pentium processor;
- at least 16 Mb RAM;
- at least 100 Mb of free space on your hard disk;
- Free USB, RS232, Ethernet port;
- Operating System: Windows™ XP, Vista, Win7, Win10

For proper installation of the Access Point WiFi refer to the instructions of manufacturer.

To obtain software updates, please contact your NARDA distributor or download it directly from the NARDA Web site: www.narda-sts.it .

The User might have the need of administrator privileges to install and run the software in Windows 7 or Windows 10; for further information see § 3.4 and § 3.8 .

3.3 Use of the Software 8063SW02

The procedure for the correct use of the AMS-8063 system is the following

- Make sure the PC meets the minimum hardware requirements;
- Install the software on the PC;
- If needed, install the **USB-RS232 adapter** (optional) on the PC;
- Set the **8063SW02 COM port settings;**
- Set the **AMS-8063 Delay command setting;**
- Double click on the **8063SW02** icon to run the software;
- If needed, modify appearance of the program with **Option/Aspect** function;
- Make a list of all AMS-8063 installed and save with **Save Panels** function **(File/Save Panels)**; otherwise load a previous system with **Open Panels** command **(File/Open Panels)**.
- Change measurement and storing settings with **Settings/Measure** function.
- On the "**Enabled**" column of the control panel, tick √ the station to be queried;
- Query the station with the function**:**
  - **SCAN:** requests instantaneous field value (single query – not continued);
  - **EXECUTE:** Requests instantaneous field value (cyclical and continued);
- Acquisition and display of the data recorded **(chapter 4);**
- Controlling and verifying the reliability of the data recorded.

3.4 Software installation

To install the 8063SW02 on PC from the supplied Software Media proceed as follows:

In Computer Resources, browse the Software Media supplied.

NOTE

The User must have administrator privileges to install the 8063SW02 software in Windows 7 or Windows 10; right click on the program .exe file and click on "Run as administrator" to temporarily run the program or application as an administrator until close it (Windows 7 also allows to mark an application so that it always runs with administrator rights).
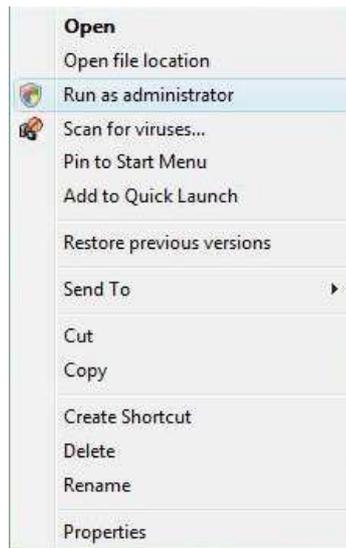
To start the installation double click on the **PMM 8063SW02 Setup** icon.

The installation can be aborted by clicking on **Cancel.**
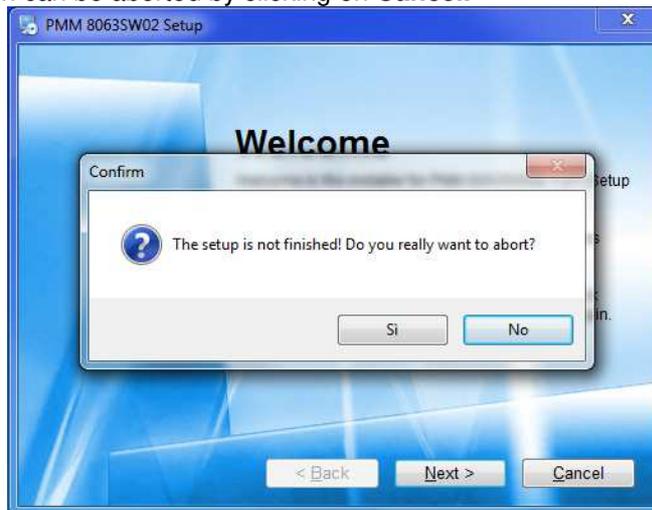
The installation folder must be specified. Click **Next** to confirm the default folder (recommended) or **Change** to modify.
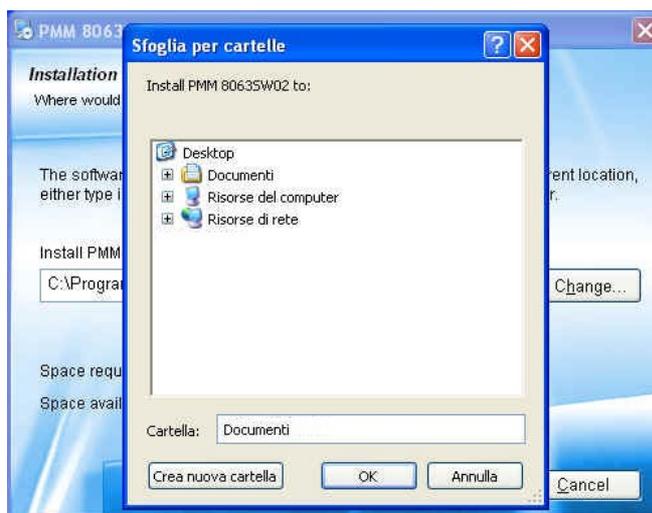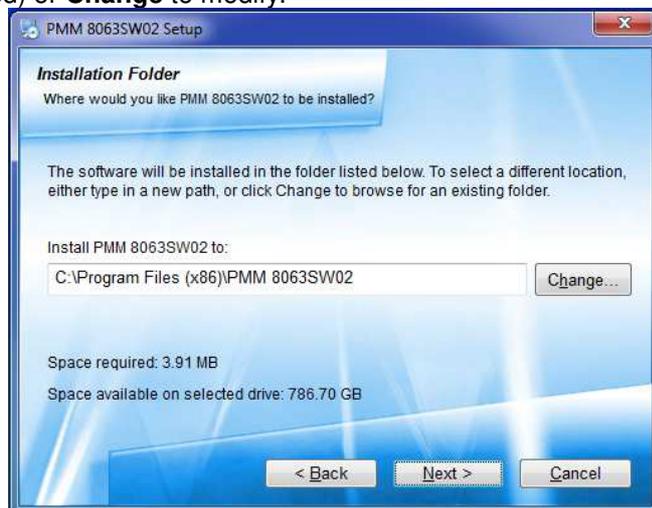
The installation folder must be specified. Click **Next** to confirm the default folder (recommended) or **Change** to modify.
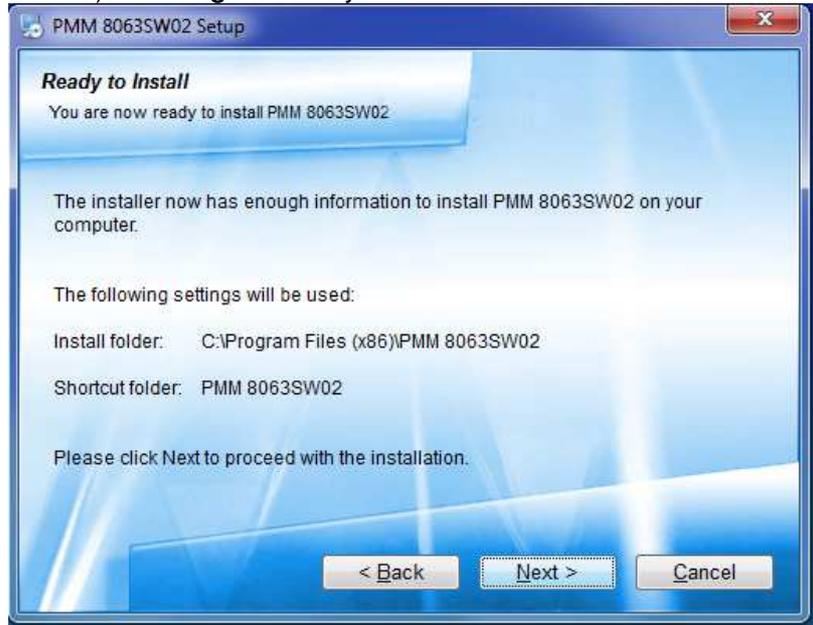

The installing status is displayed then.
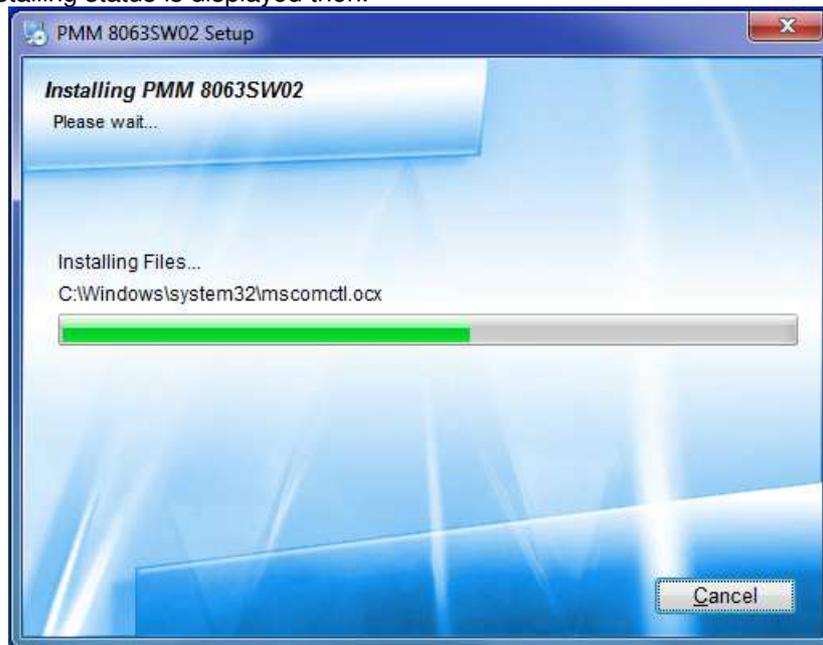
Click **Finish** to complete and exit the installer.

The folder **PMM 8063SW02** is created under **All Programs** with the icon **8063SW02** on desktop
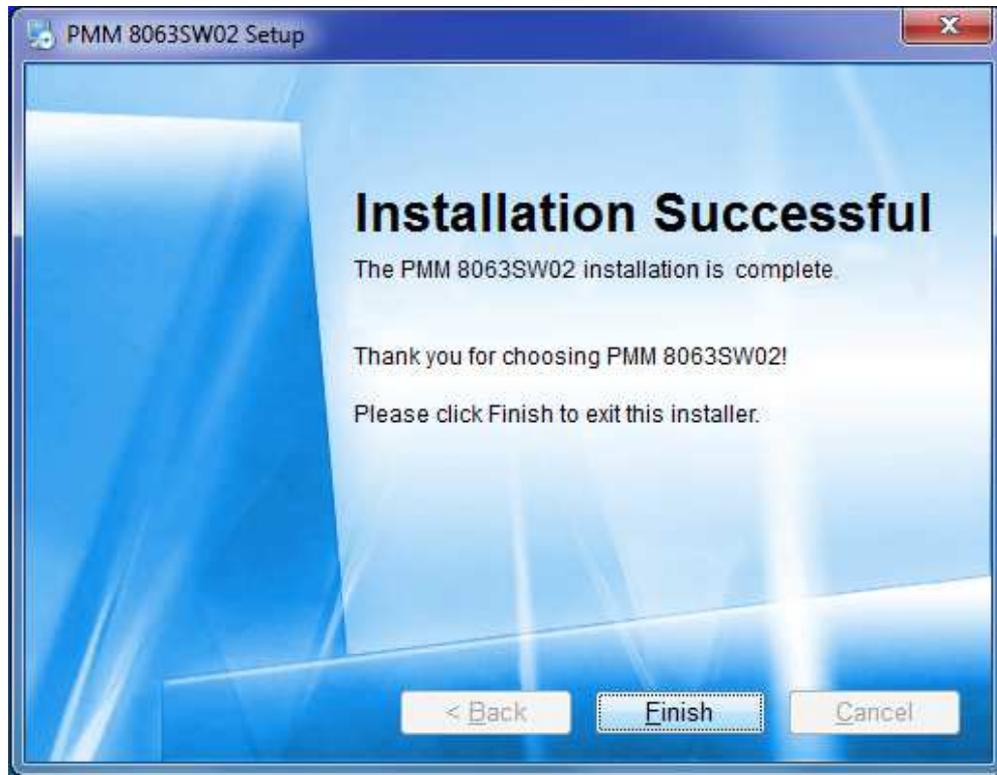
3.5 USB-RS232 Adapter (optional, AMS-8063-01) or AMS-8063-02 (Interface box)

Connect the USB-RS232 adapter for AMS-8063-01 or the AMS-8063-02 Interface box to the PC by USB cable and wait for the "**new hardware installation"** procedure. Drivers supplied with the adapter can be used as well.

Enter in **Peripheral management** (**Start** > **Control Panel** > **System and Security > System > Device Manager**).
The assigned COM can be found in **Ports (COM & LPT) – Prolific USB-to-Serial Comm Port (COMx)**.

COMx shows the COM port assigned to the USB-RS232 adapter or Interface box.

NOTE
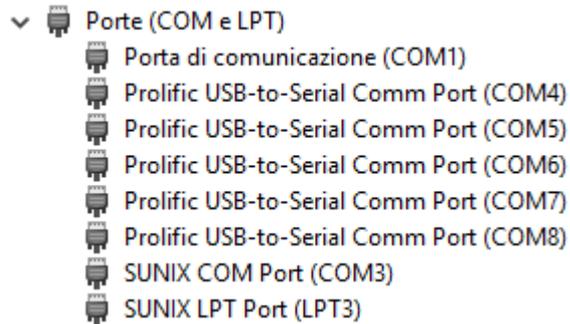
To change the **COMx** port, double click the line **Ports (COM & LPT)** and **Prolific USB-to-Serial Comm Port (COMx).** Enter in **Port settings** and **Advanced.**
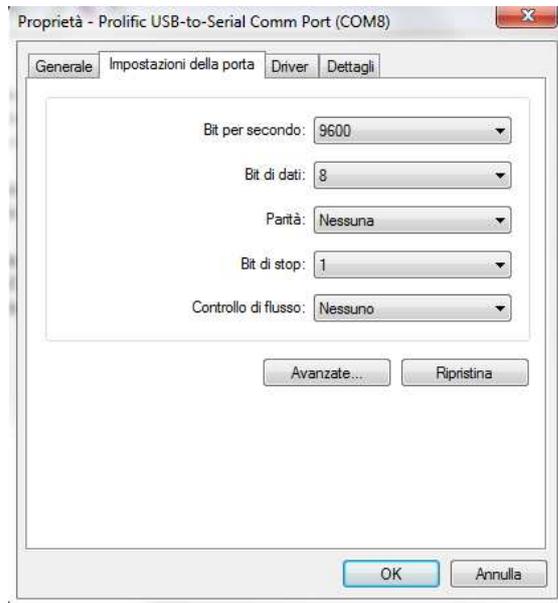
In **Advanced Settings** select the first COM port available; click **OK**
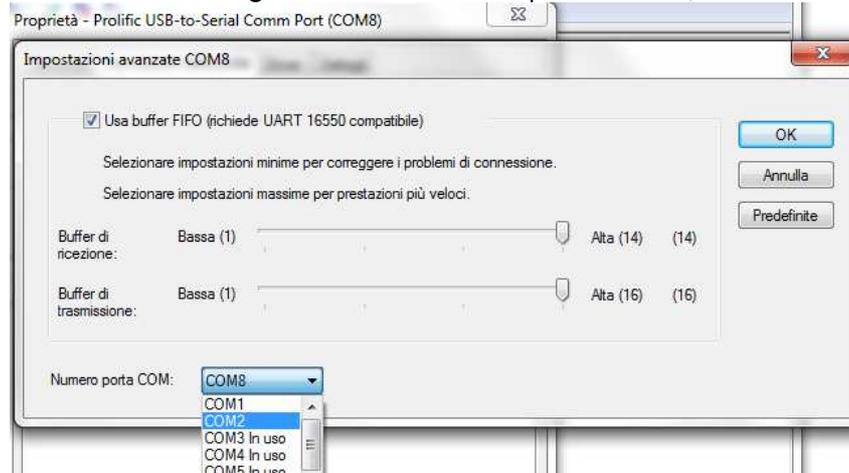
3.6 8063SW02
    COM port settings

Select the icon **8063SW02** with the right mouse button

Select **Properties**;

NOTE

Add the command **COMM=N** preceded by a space (in capital letters) at the end of the **Destination** field where N indicates the serial port to be used; for example, if the Modem is connected to port 2, add the command COMM=2.

NOTE

In some operating system the Destination field is enclosed in double quotation marks ("); in this case, the command COMM=N, preceded by a space must be outside as in the example below.

Then confirm by selecting **Apply** and **OK.**

3.7 AMS-8063 delay Command setting

The software allows to query continuously and cyclically a system of AMS-8063 monitoring stations **(see §3.9.8 EXECUTE);**
To set the querying delay time among AMS-8063 installed and <u>enabled</u> proceed as follows:

Select the icon **8063SW02** with the right mouse button

Select **Properties**;

Add the command /**DELAYSC=N**/ preceded by a space (in capital letters) at the end of the **Destination** field.
N indicates the delay time in seconds (the assigned value must be from 1 to 360); it is suggested a value equal or more than 30 seconds.
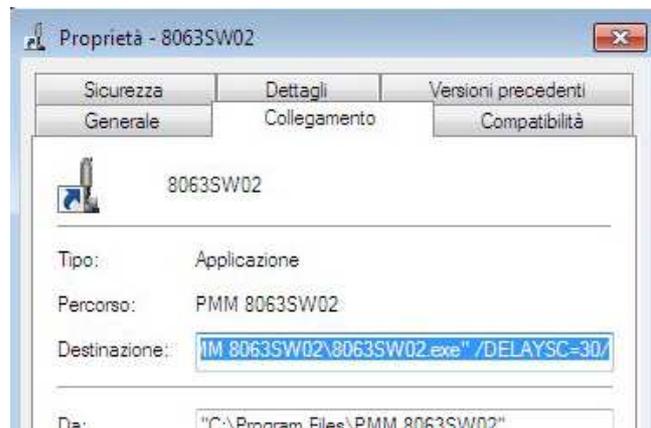
Then confirm by selecting **Apply** and **OK.**

**3.8 ATOP AW5500 Access point installation (AMS-8063-00 only)**

Connect the Access Point to the PC by ethernet cable.

Disable the firewall on the PC

Insert the software CD-ROM (provided with the Access Point) into the drive and open the **Device view** software on the folder D:\Managment Utility; it allows to set the Access Point; do not change the default settings.
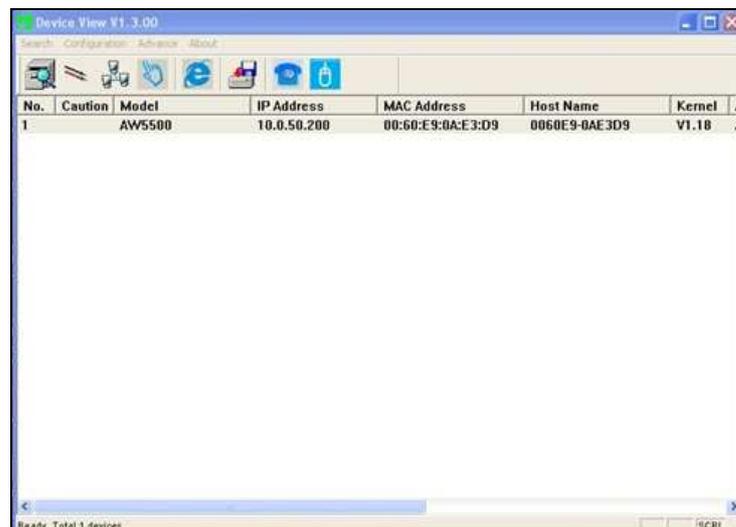
Set the IP address on the PC as shown below and confirm with **OK**:
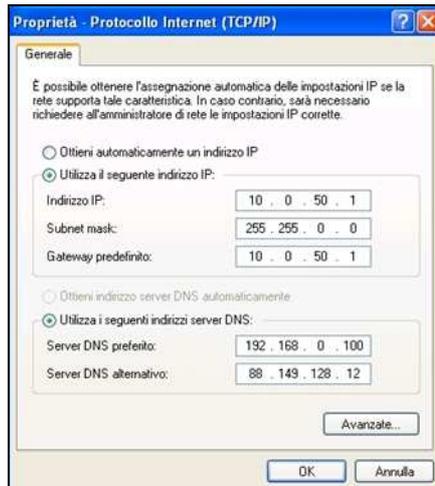

Once again, open the settings Access Point window and click Row 1 twice.
The Password field must be left empty; click on **Authorize**
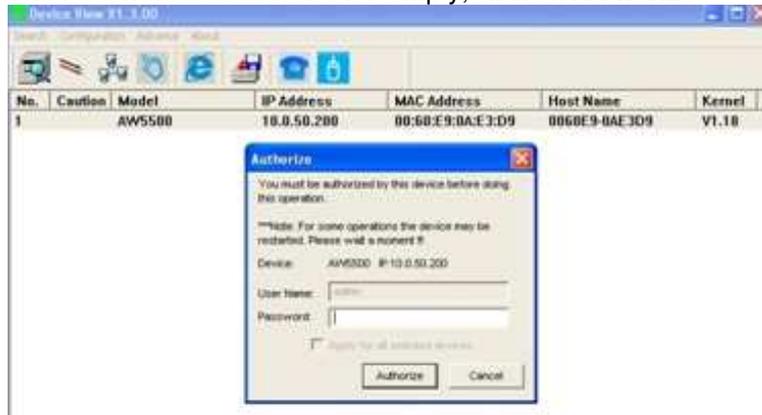

On the web browser, enter the IP address of the device on the URL
(http://10.0.50.200).
The authentication screen as shown in figure below; the default user name
is **admin** and password must be left empty.
Click on **OK** to confirm.
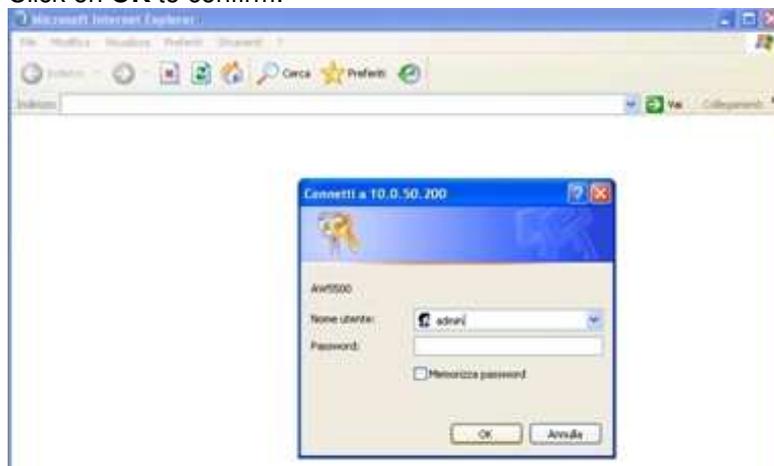
Once the user logins, the overview screen appear as shown in figure below. Select **Regular AP** and click on **Save Settings** and **Apply** to go to the next step.
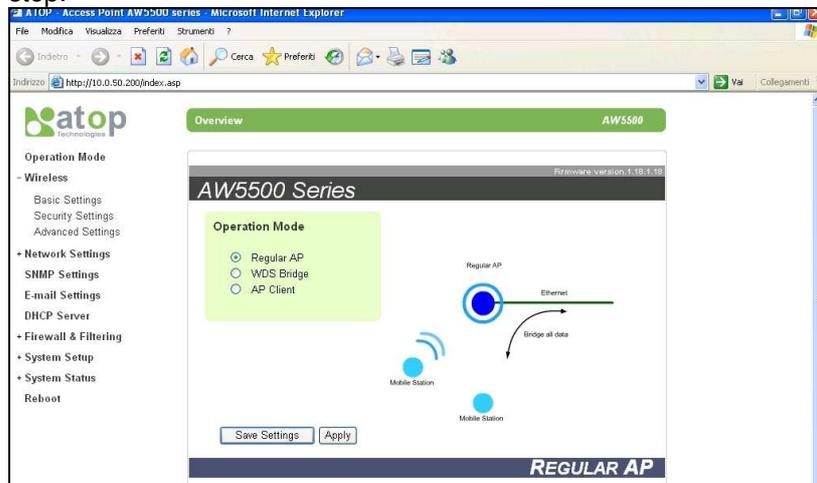
Set the **Basic settings** as shown in figure below. Click on **Save Settings** and **Apply** to go to the next step.
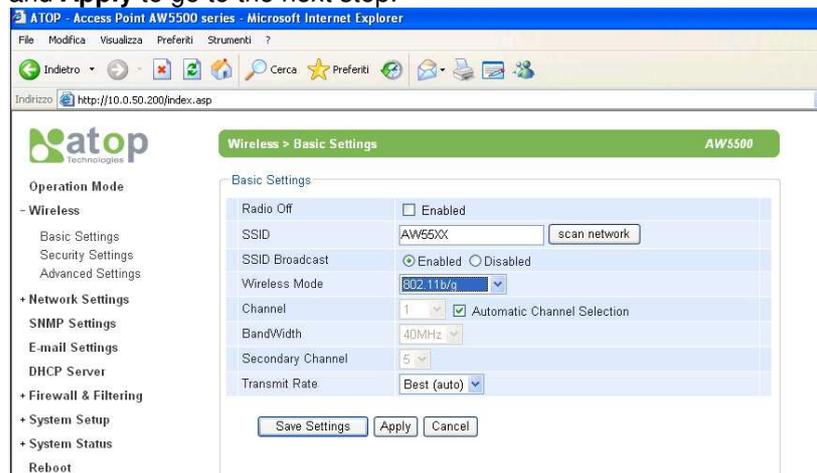

Set the **LAN&WLAN Interface** settings as shown in figure below. Click on **Save Settings** and **Apply** to go to the next step.
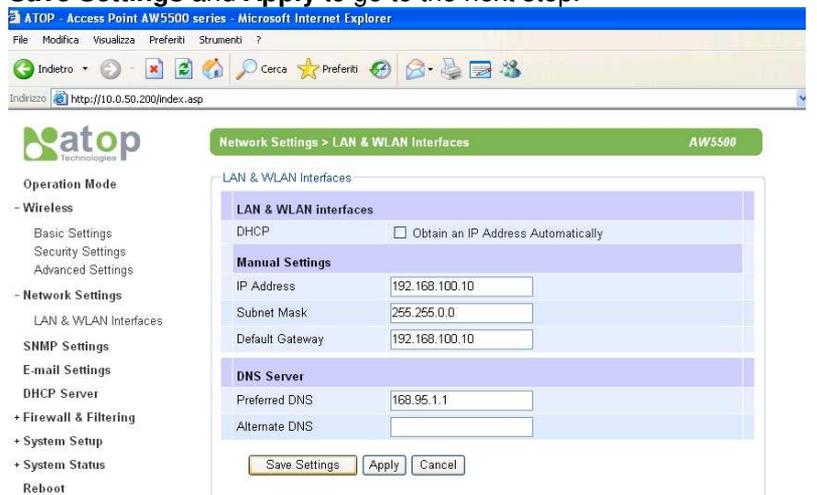
3.9 STE02W
WiFi Serial Converter
installation
(AMS-8063-00 only)

Set the IP address on the PC as shown below and confirm with **OK**:
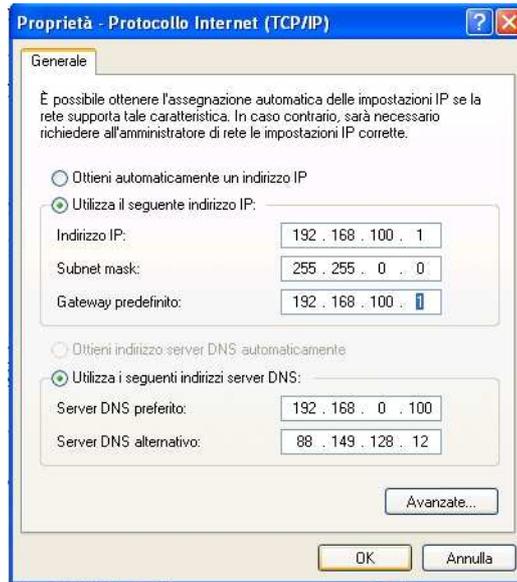
Run the Ste02W SETUP software and continue to click **Avanti** until the **Pronto per l'installazione** screen appear; confirm with **Installa**.
Confirm with **SI** when the RealPort driver installation message appear.

The figure below shows the list of devices detected in the local network; assign the IP Address as shown in the figure below.

You can update this list by clicking on the **Refresh** button.

Select the device that you want to configure and press **Avanti** button or clicking twice to open the advanced configuration page; if your device is not displayed in devices list, verify that :
– the device is correctly connected and powered
– no firewall blocks network access to Device

Verify the virtual COM port assigned.
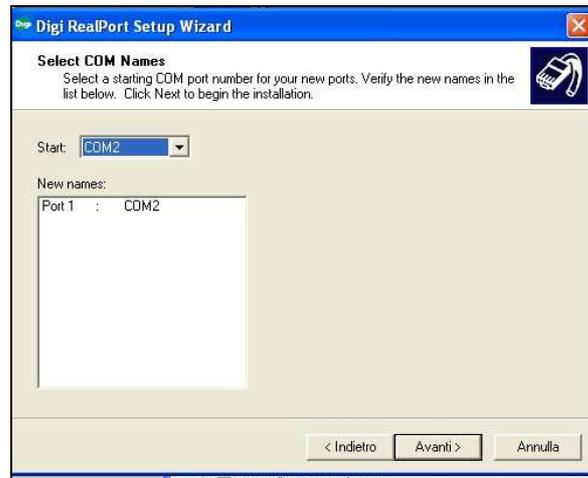
Set the network setting as shown in figure below:

Enter in **Peripheral management** (**Start** > **Settings**> **Control Panel** > **System**>**Hardware**> **Device Manager**). The assigned STE02W COM port can be found in **Ports (COM & LPT) – USB Serial Port (COMx)**.
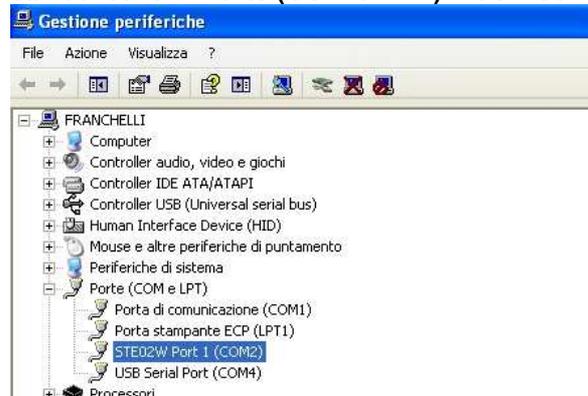
Select the COM port in order to the 8063SW02 station control panel.(see § 3.11)

3.10 Starting the program

Before to start 8063SW02, it is recommended to limit the applications running on your computer.

The User must have administrator privileges to run the 8063SW02 software in Windows 7 or Windows10; right click on the program .exe file and click on "Run as administrator" to temporarily run the program or application as an administrator until close it (Windows 7 also allows to mark an application so that it always runs with administrator rights).

Click twice on the **8063SW02** icon to start the software

First a window appears displaying the software release.

**3.11 Main window**   The program 8063SW02 main window will be shown
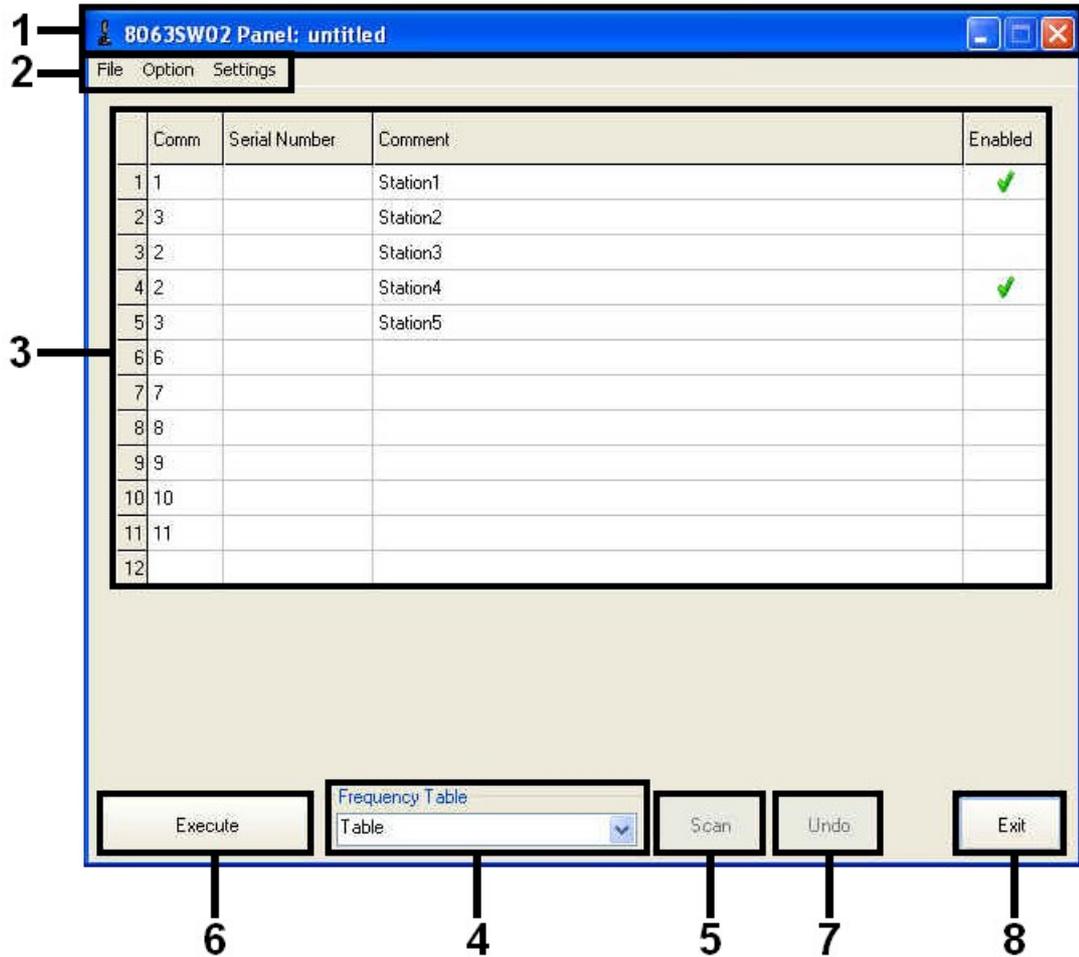
Fig. 3-1 8063SW02 main window

1. Tool bar;
2. Setting menu;
3. Station control panel;
4. Frequency table;
5. **Scan** button;
6. **Execute** button;
7. **Undo** button;
8. **Exit** button.

3.11.1 Tool bar

The tool bar shows the icon and name of the software; it is also displayed the name of the AMS-8063 system loaded on the station control panel.
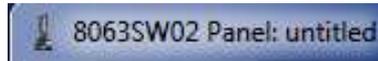
The control buttons allow to minimize to icon, enlarge/restore the main window and exit the program.

3.11.2 Setting menu

Commands:
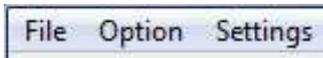
- File: Manage the AMS-8063 system, display the data recorded and show 8063SW02 release information.

- Option: Modify the appearance of the program and sort in ascending alphabetical or chronological order the "frequency table" saved.

- Settings: Manage the Frequency table and modify measurement and storing settings.

3.11.3 Option

Option menu:
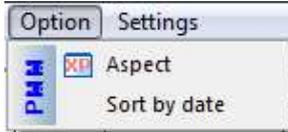
Aspect

Sort by date

3.11.3.1 Aspect

Aspect concerns the appearance of the program:
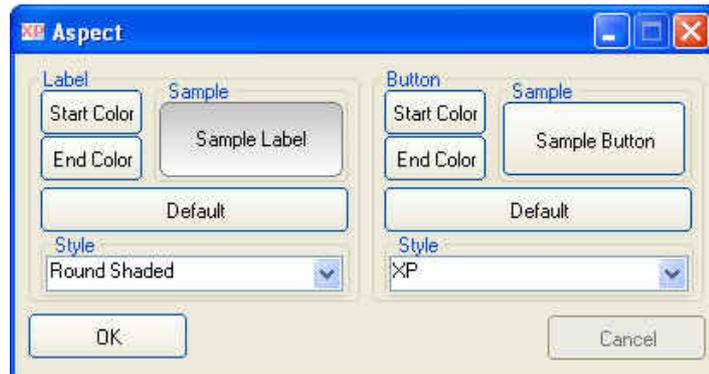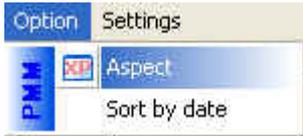
Buttons and labels styles can be selected from a **Style** list
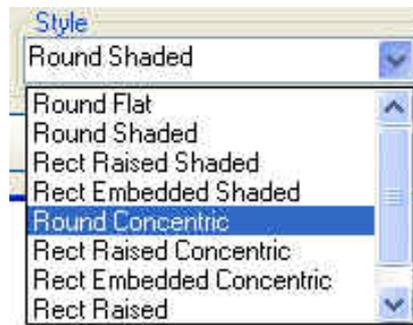
Start and **End Color** buttons allow selection from a color palette

Sample Button and **Sample Label** show the appearance preview

Default button to set appearance to the default parameters

3.11.3.2 Sort by date

If **Sort by date** is disable the frequency table saved are sorted in ascending alphabetical order.
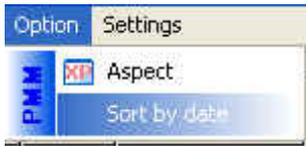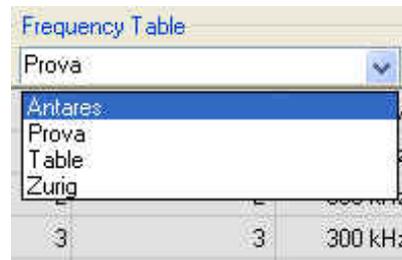
If **Sort by date** is enabled √ the frequency table saved are sorted in chronological order.

Safety Test Solutions
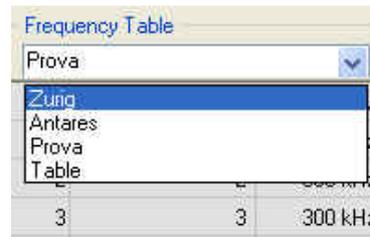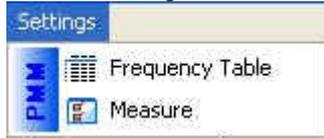
3.11.4 Settings

Settings menu:

- Frequency Table

- Measure

3.11.4.1 Frequency Table

The **Frequency table** function opens a window to edit the centre frequency (in MHz) and select the Resolution Bandwidth filter.

The RBW affects the sweep time (the higher RBW, the faster sweep) and frequency resolution (Lower RBW shows more details in the frequency axis).
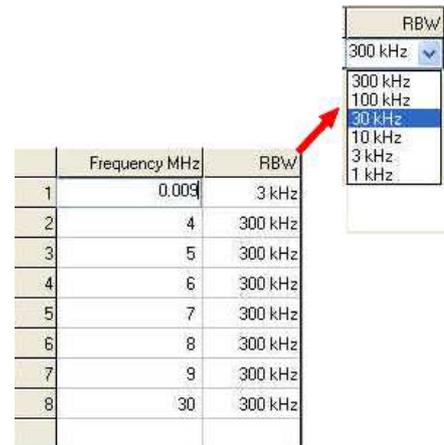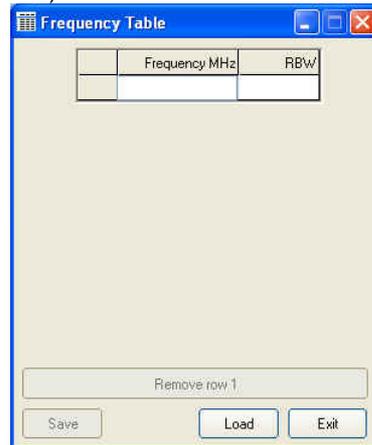
Click the **Exit** button to go back to the main window

Type centre frequency (in MHz), select among six different settings for the Resolution Bandwidth filter (1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz e 300 kHz) and confirm with Enter.

NOTE

As long as the first row is not filled, the "Save" and "Remove Row" buttons are disabled.

To delete the Row click on the corresponding line (which turns blue) and

select **Remove Row** (it will show the number of the row selected).
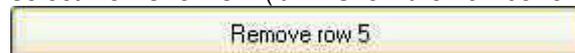
If the centre frequency value is already entered, the following message will be shown:
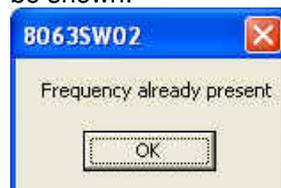
When a row is filled at least and select **Exit,** it will be shown the **Save Frequency** window.

The **Save** button opens the following window:

← List of the Frequency table previously saved.

← Type a new name for the Frequency table (If any name is not entered, the new frequency table will be saved with the default name *Table*).

Select **Save** to confirm.
If select **Exit**, the operation will be aborted.

If you type or select a name already entered, the following message will be shown:

Select **Yes** to confirm**.**
If select **No**, the operation will be aborted

If select **Exit** after having modified a Frequency table previously saved**,** it will be shown the following message:

Select **Save** to type a new name for the Frequency table or overwrite a table already present in the list.

Select **Replace** to overwrite the existing frequency table.

If select **Cancel**, the operation will be aborted.

Load button allows to recall a Frequency Table previously saved:
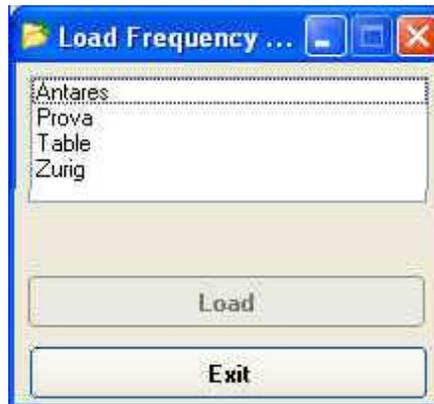
← List of the Frequency table available.

Select a Frequency table from the list and confirm with **Load**.

NOTE

As long as a Frequency table is not selected, the "Load" button is disabled

Click the **Exit** button to go back to the main window

3.11.4.2 Measure

Measure menu:

- Table Mode (Field e Rate [Minutes])

- Spectrum Mode (Settings, Threshold and Rate[Hours])

- Preamplifier

- AVG/RMS

- Text file Separator

- Trace

- Save Bitmap/Save jpg

- OK/Default/Cancel
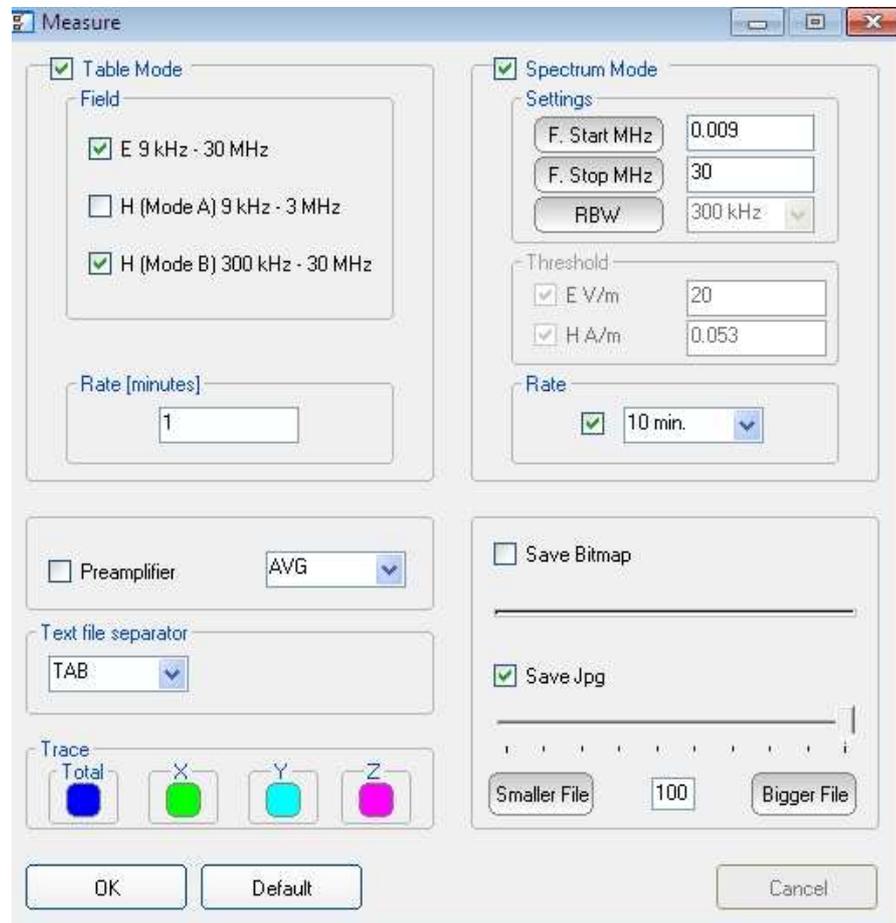
Table Mode

Table Mode section allows to set different acquisition modes and the storing Rate.
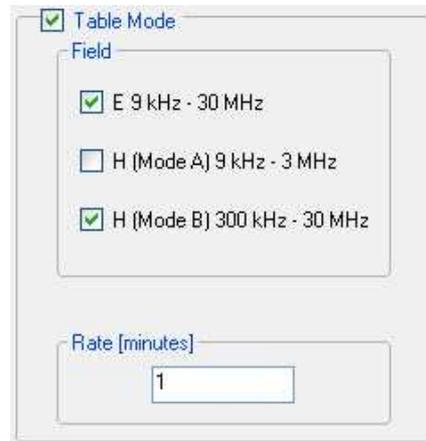
Field
Select Electric (E) and/or Magnetic (H) in two different ranges.

E 9 kHz – 30 MHz

H (Mode A) 9 kHz – 3 MHz

H (Mode B) 300 kHz – 30 MHz

Rate [minutes]
Data are saved in the **Table_Mode.txt** at a frequency (**Rate**) ranging from 1 minute to 1440 minutes.

AVG/RMS

This command defines on which average the field levels will be calculated. The average can be arithmetic **(AVG)** or quadratic **(RMS)**.
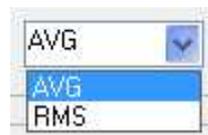
Spectrum Mode
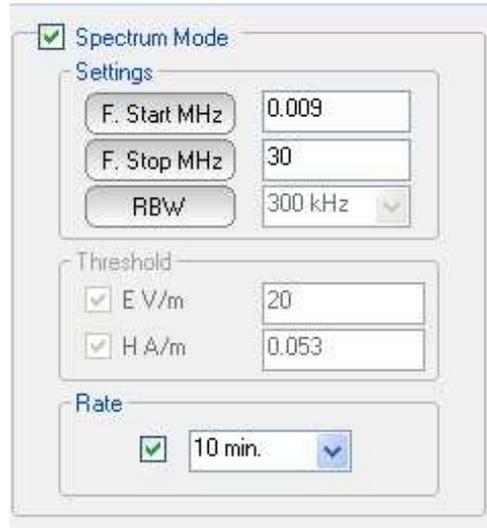
Settings
F. Start MHz, F. Stop MHz: can be set to easily define frequencies to be displayed.

RBW: the RBW filter is set automatically, depending on the frequency range.

Threshold: The spectrum analysis is executed when exceeding the threshold value set for the field intensity.
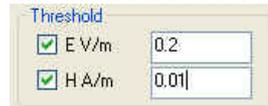
In the default settings the Threshold is not enabled. Disable the Rate[hours] to active this function.

The spectrum analysis is executed at the frequency of Rate [hours] or when exceeding the threshold value.

Rate [hours] indicates after how many hours from the latest scan the Analyzer has to perform a new one.
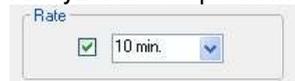
The spectrum analysis is performed at a frequency **(Rate)** of 10, 15, 30 minutes or 1, 2, 3, 4, 5, 6, 12 and 24 hours

Preamplifier   **Preamplifier:** for best sensitivity when activated.

Trace   **Trace** to set trace colours by means of the colour palette

Text file Separator   Select the separator character (tab or comma or semicolon) to set the separator character between each column in the TXT file.

- tab

```
Freq        Total       X           Y           Z
MHz         A/m         A/m         A/m         A/m
0.0090      0.0017      0.0010      0.0010      0.0010
0.0840      0.0017      0.0010      0.0010      0.0010
0.1590      0.0017      0.0010      0.0010      0.0010
```

- comma

```
Freq ,      Total,      X ,         Y ,         Z ,
MHz  ,      V/m,        V/m ,       V/m ,       V/m ,
0.0090,     106.27,     62.062,     61.968,     60.015,
0.0840,     96.364,     56.437,     55.921,     54.531,
0.1590,     73.642,     43.375,     42.687,     41.468,
```

- semicolon

```
Freq ;      Total;      X ;         Y ;         Z ;
MHz  ;      A/m;        A/m ;       A/m ;       A/m ;
0.0090;     0.0017;     0.0010;     0.0010;     0.0010;
0.0840;     0.0017;     0.0010;     0.0010;     0.0010;
0.1590;     0.0017;     0.0010;     0.0010;     0.0010;
```

Save Bitmap/Save jpg   It allows to define the quality of the image copied in the graph area.
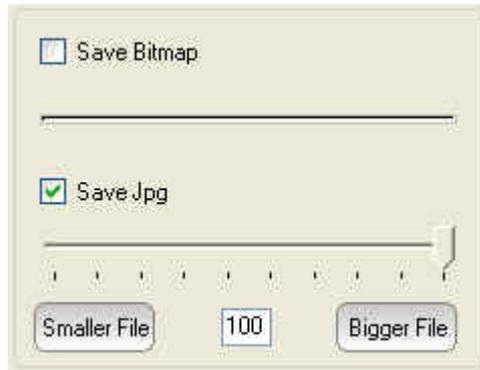
In the **Factor Quality** window drag the slider arrow left or right to change the balance between size and quality; you can also use the box to set the exact percentage.

NOTE   **The best compromise between quality and dimensions is around 90%.**

OK/Default/Cancel

Select **OK** to save the new setting and go back to the main window.

Select **Default** to completely restore the initial setting.

If select **Cancel**, the operation will be aborted without saving.

3.11.5 Station control panel

The Station control panel includes the list of all AMS-8063 installed.
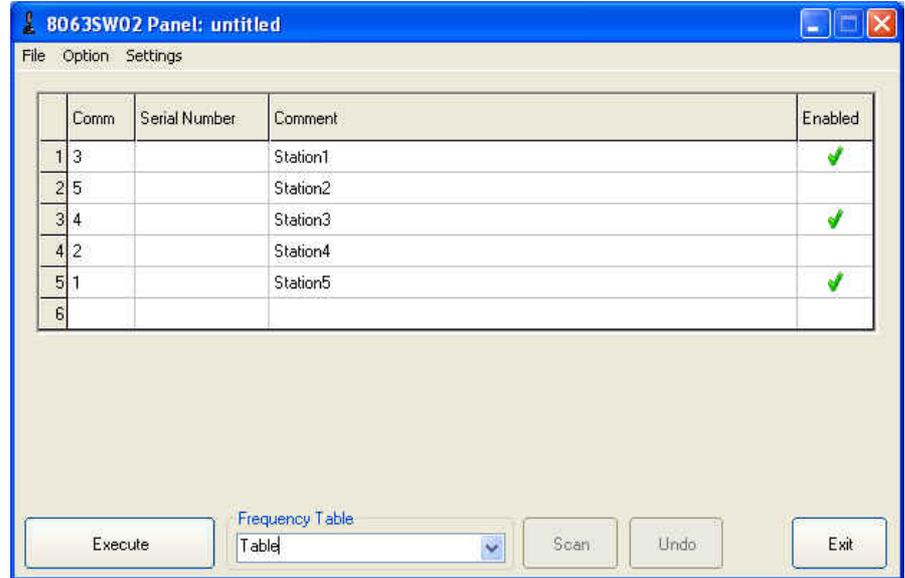
To enter a new Station proceed as follows:

Comm: Select the COMM port available.

Comment: Type the name of the monitoring station.

On the "**Enabled**" column of the control panel, tick √ the station to be queried.

UNDO button to erase the last change.

As soon as the station is queried, the serial number will be displayed; the number will appear till the software is not closed.

If two or more stations <u>enabled</u> have the same COMM port number assigned, the following message will be shown.

As long as a station is not listed, the following message will be shown:

3.11.6 File

File menu:

- Save Panels;

- Open Panels;

- Open Scan (see Chapter 4).

- Info

3.11.6.1 Info

Click **Info** to display the software release currently installed on the PC
.
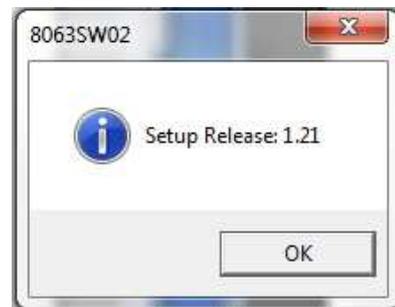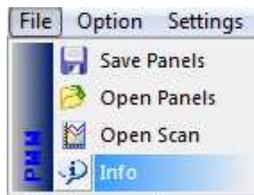
3.11.6.2 Save Panel

Save Panels allows to save the group of all AMS-8063 listed to a file.
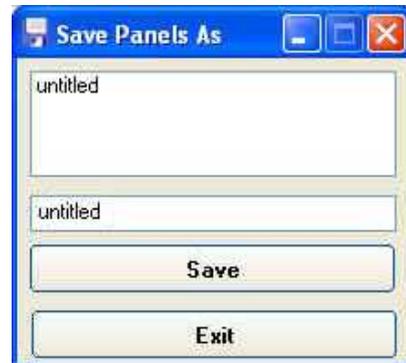
← List of Systems previously saved.

← Type a new name of the System (If any name is not entered, the new System will be saved with the default name *untitled*).

Select **Save** to confirm.
If select **Exit**, the operation will be aborted.

If you type or select a name already entered, the following message will be shown:
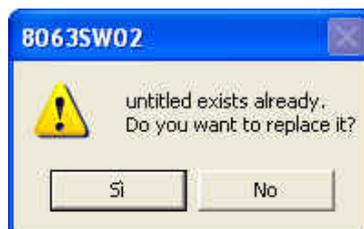
Select **Yes** to confirm**.**
If select **No**, the operation will be aborted

3.11.6.3 Open Panels

Open Panels allows to recall a group of AMS-8063 previously saved
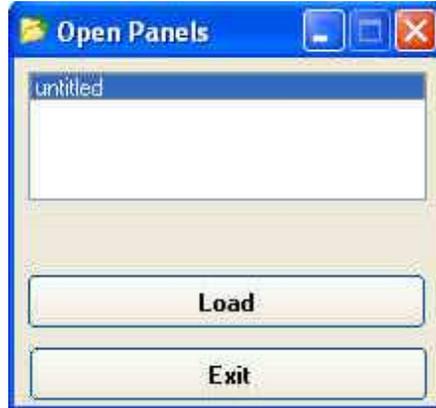
← List of the System available.

Select a System from the list and confirm with **Load**.

NOTE

As long as a System is not selected, the "Load" button is disabled
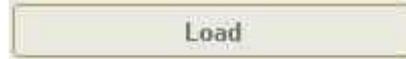
Click **Exit** to go back to the main window

3.11.7 SCAN

SCAN: requests instantaneous field value (single query – not continued).
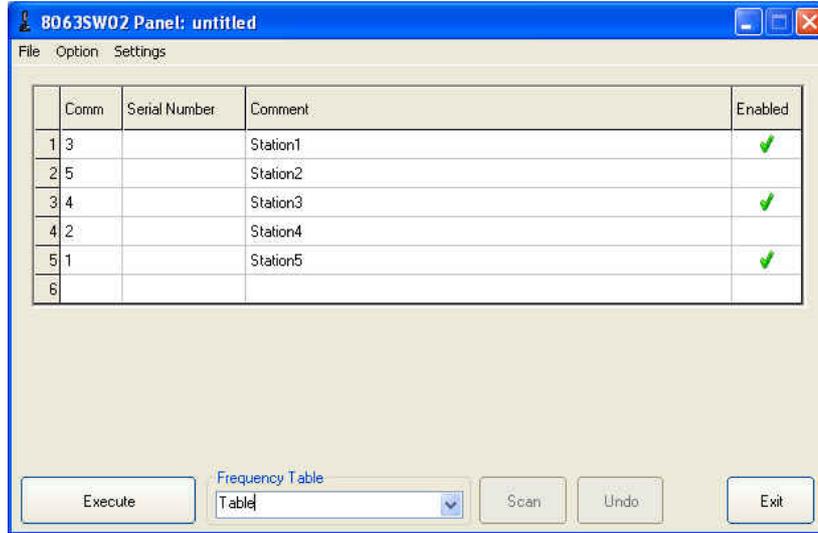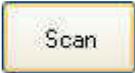
With √ enable the station to be queried (which turns blue).

Press **SCAN** button to query the station enabled.

Depending on the settings (see **Settings/Measure**), it will be displayed the spectrum of the Electric and/or Magnetic field with automatic generation of graph (.JPG or .BMP) and table (.TXT).

The analyzer stay ON for the minimum time necessary to perform the scan on the 3 axis simultaneously and store the data.

If both Electric and Magnetic (Mode A or Mode B) field are enabled, they will appear in sequence.
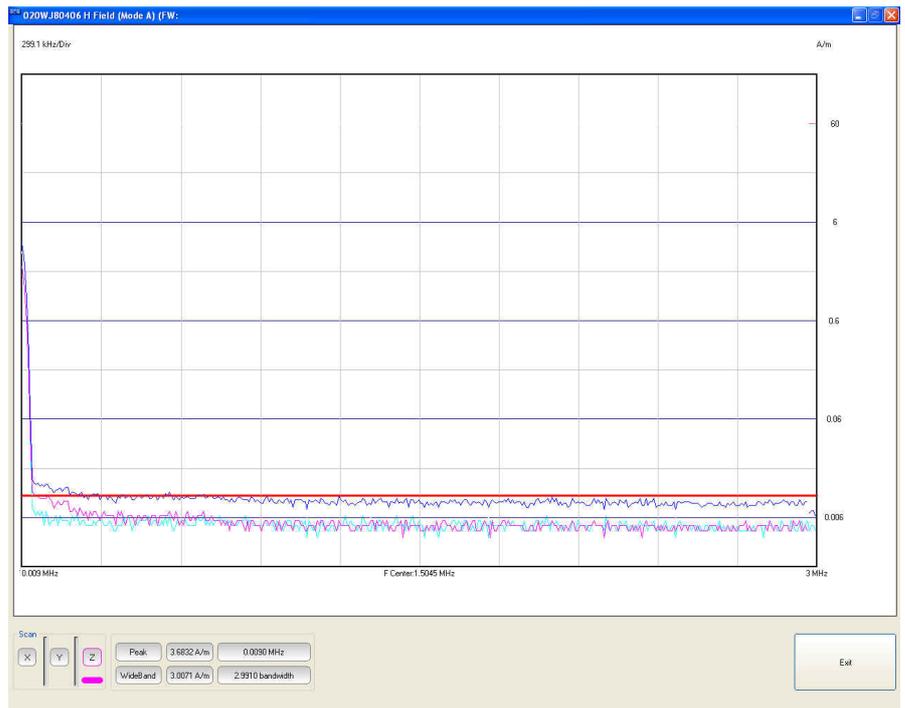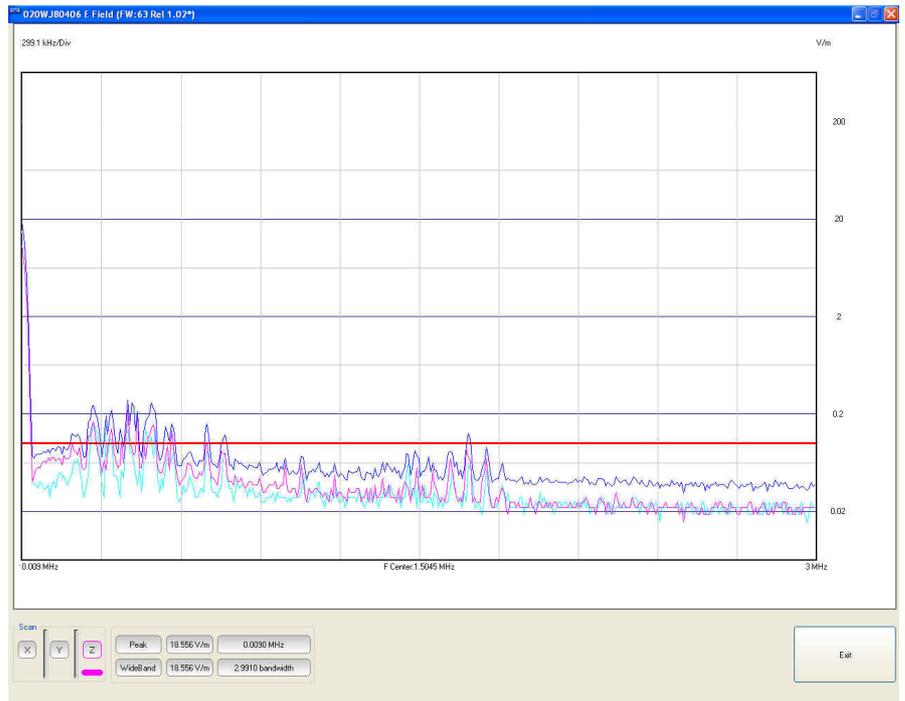
3.11.8 EXECUTE   With **EXECUTE** button the software query continuously and cyclically a system of AMS-8063 monitoring stations.
To set the querying delay time among AMS-8063 <u>enabled</u> see **§ 3.7**.
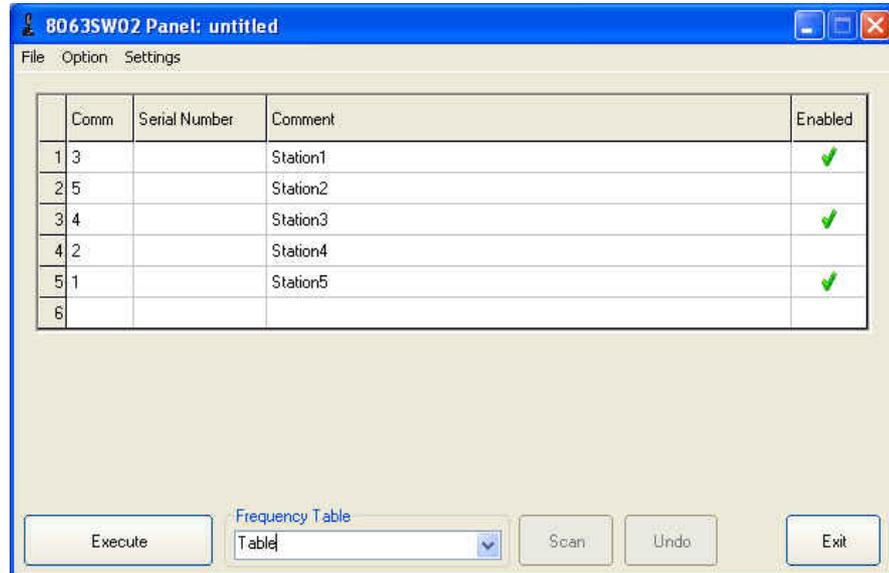
With √ enable the station to be queried.

Press **EXECUTE** button to query the station enabled.

On the Station control panel will be displayed new indicators as:

- Last link time: date of the latest connection made;

- Battery: The internal control system of the Analyzer features a voltmeter for continuous measurement of the battery voltage. This function ensures constant control of the power situation for correct operation of the system.

The default values of the battery are 3.6V (Threshold minimum) e 4.4V (Threshold maximum).
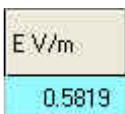
- E V/m: show the instantaneous electric field value; simply move the mouse cursor above the value to display some frequencies and value previously read by the station.
When the field exceeds the threshold set, the value will be displayed in red with asterisks (*).
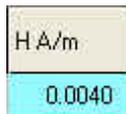
- H A/m: show the instantaneous magnetic field value; simply move the mouse cursor above the value to display some frequencies and value previously read by the station.

When the field exceeds the threshold set, the value will be displayed in red with asterisks (*).
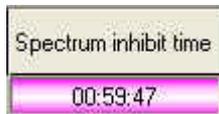
- Spectrum inhibit time: The analyzer collects and display the data till the Spectrum inhibit time is not expired; after that the analyzer performs the scan on the 3 axis simultaneously and store the data for the time necessary.
In the **Setting/Measure/Rate[hours]** enter a submultiple of 24 hours defining the daily rate at which the operation has to be repeat.

NOTE

The "Spectrum inhibit time" function is active if the "Rate[hours]" is enabled.

After pressing the **EXECUTE** button, the program performs a check of the system (called "Polling Time").
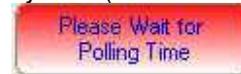
At the end of the check, it will be displayed "Polling Time OK".

Station: 020WJ80406 Reading : 1 Frequency: 7 MHz; [E = 0.4428 V/m ; H = 0.0088 A/m]

File Option Settings

	Comm	Serial Number	Comment	Last link time	Battery	E V/m	H A/m	Enabled
1	3	020WJ80505	Station1	15.20.38 09/01/2009	3.91 V	...	...	✔
2	5		Station2					
3	4	020WJ80506	Station3	15.20.44 09/01/2009	3.97 V	...	...	✔
4	2		Station4					
5	1	020WJ80406	Station5	15.20.48 09/01/2009	3.91 V	0.4428	0.0088	✔
6								

Station: 020WJ80406 Reading : 1 Frequency: 7 MHz; [E = 0.4428 V/m ; H = 0.0088 A/m]

Remaining Time: 00:00:46 (Table Mode)

Stop   Frequency Table   Table   Scan   Undo   Please Wait for Polling Time   Exit

If a station is not connected or the communication is not established, the row turns red; the EHP-8063 will automatically switch off after about 3 minutes and the battery will be charged.
The connection is reestablished, when the battery voltage will be above 3,05 V.

NOTE

The connection can be established while the software is running; at the next cycle, the software will recognize the station just connected.

3.11.9 8063SW02 Operating principle

For each station the 8063SW02 performs a continued and cyclical check; Once the connection between PC and Station is established the software will show the Serial Number, the date of the latest connection, the battery voltage and the measured instantaneous electric and magnetic field value.

Move the mouse cursor above the serial number to display the firmware release currently installed on the station.
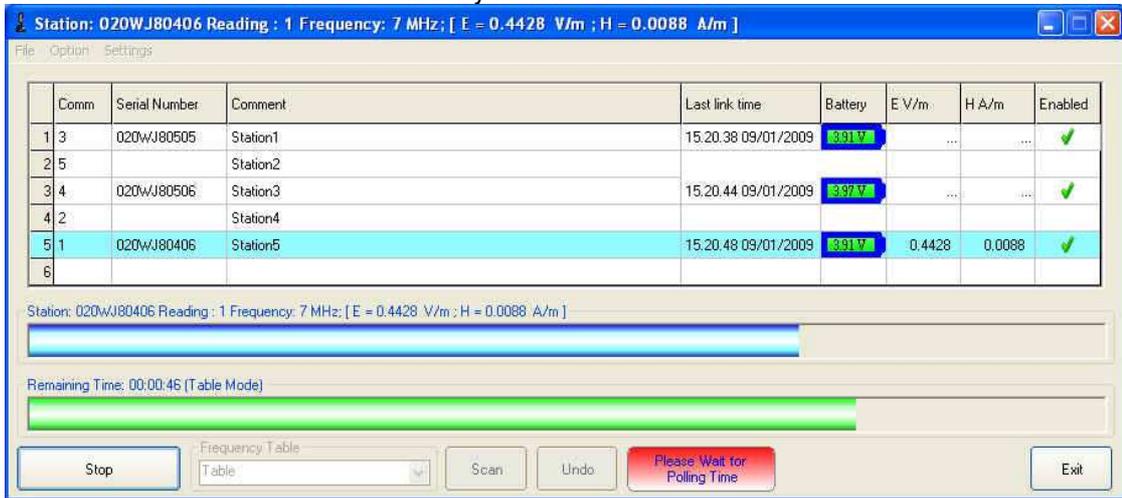
When the station is queried (which turns blue), a blue progress bar is displayed showing the measured instantaneous electric and/or magnetic field value for each frequency present in the **Frequency Table** (the value is also shown in the **E V/m** and/or **H A/m** column).

The **Reading** parameter indicates the number of the value read and stored in the **Table_Mode.txt** file in the interval of elapsed time which is shown by the green progress bar.
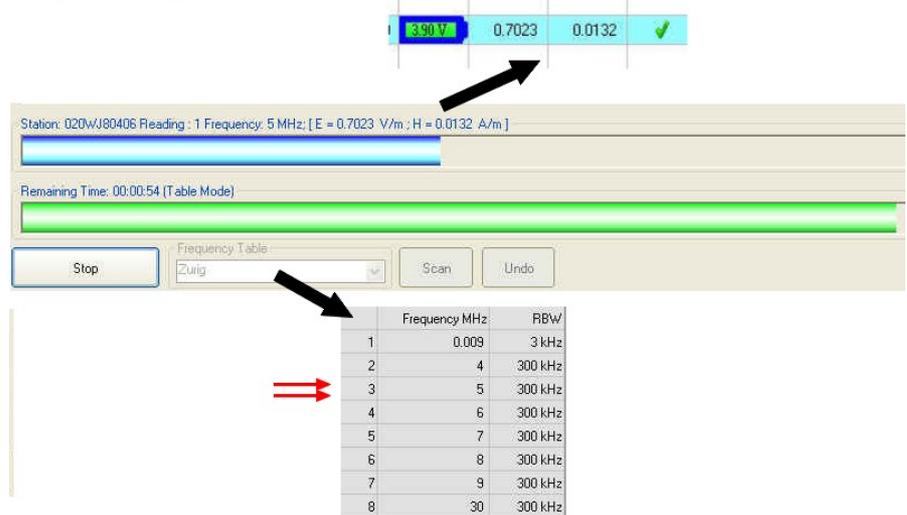
The analyzer also collects and displays the data till the **Spectrum inhibit time** is not expired (**Rate[hours]**) or when exceeding the threshold value set for the field intensity (**Threshold**). After that, the analyzer performs the scan on the 3 axis simultaneously and store the data for the minimum necessary time only; the operation is repeated at the set daily Rate or when a new Threshold event occur.

3.12 Uninstalling Software	It is possible to remove the 8063SW02 software from the PC according to the following procedure:

Exit from the 8063SW02 program.

Select **Start** ( ) → **All Programs** → **PMM 8063SW02** and then click on **Uninstall PMM 8063SW02**.
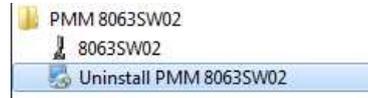
Follow the uninstaller instructions

The software is now removed from the system; click **Finish** to close uninstaller utility

Before removing any shared system file, the uninstaller will ask for a confirmation.
Answer "NO" in case you are not sure whether the showed system file is required for other applications.

The destination folder will not be deleted to preserve the data downloaded and the Log file.
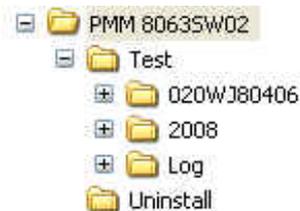
It is suggested to make a backup of the destination folder for future needs before deleting it.

3.13 Uninstalling the driver of RS232-USB adapter (optional)

Apply this method if the driver uninstaller (normally supplied with the hardware) is not available.

Right click on **Computer** icon to access **Properties**

Select **Hardware** and **Device Manager.**
Click **+** to expand **Porte (COM e LPT).**
Right click on **Prolific USB-to-Serial Comm Port (COMx)** and **Uninstall.**

Then confirm by selecting **OK.**

Once the uninstall is completed the peripheral **Prolific USB-to-Serial COMM Port (COMx)** will be removed.
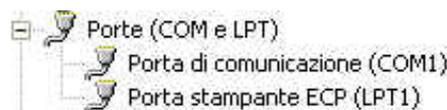
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4 – Data display

4.1 Introduction

This section provides information for correct display and interpretation of the data downloaded from the AMS-8063 Area Monitor System using the 8063SW02 software.

⚠ WARNING

To ensure the program runs correctly it is important not to rename or move the saved files.

4.2 Data management

The installation folder has an intuitive structure that allows an easy management of data acquired.

4.2.1 Installation folder structure

The installation folder includes:

- **Panels:** Each list of AMS-8063 is stored in a file.
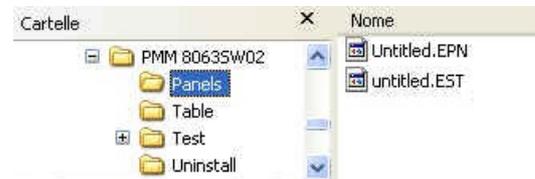
Untitled.EST file preview

	Comm	Serial Number	Comment	Enabled
1	5		Station1	✔
2	4		Station2	
3	3		Station3	
4	2		Station4	
5	1		Station5	✔
6	6			
7	7			
8	8			
9	9			
10	10			
11	11			
12				

- **Table:** Each file contains a Frequency Table.
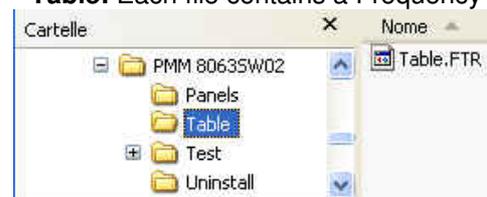
Table.FTR file preview

Frequency Table

Table

	Frequency MHz	RBW
1	0.009	3 kHz
2	4	300 kHz
3	5	300 kHz
4	6	300 kHz
5	7	300 kHz
6	8	300 kHz
7	9	300 kHz
8	30	300 kHz

- **Test:** This folder contains all data acquired and the Log file.

(020WJ80406). When a new monitoring station is installed, a new folder is created in the **Test** directory. The folder is created to collect the data every time the AMS-8063 station is queried, dividing them by year (2008), month (12) and day (19).
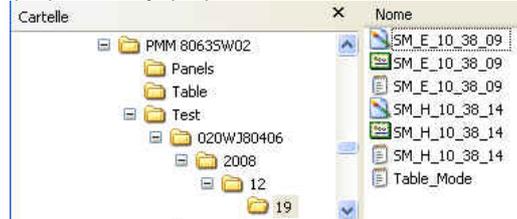
SM_E_10_38_09.txt file preview

```
020WJ80406 2008/12/19 10.38.09 Narda S.T.S.
Rel. FW: 1.02 Rel. SW: 1.00
RBW:  300 kHz  Span: 29.991 MHz
E Field Peak 103.98 V/m @ 0.0090 MHz
WideBand: 103.98 V/m
Spectrum N° 1
Rate: 1 hours

    Freq         Total          X             Y             Z
    MHz           V/m           V/m           V/m           V/m
   0.0090       103.98        61.125        59.843        59.125
   0.0840        94.765       55.890        54.875        53.343
   0.1590        72.159       42.468        41.609        40.890
   ...
   ...
   ...
   ...
   ...
   ...
   ...
   ...
   ...
  29.7090        0.3984        0.2031        0.2500        0.2344
  29.7840        0.3701        0.2188        0.2188        0.2031
  29.8590        0.3977        0.2500        0.2188        0.2188
  29.9340        0.3707        0.2344        0.2031        0.2031
```

SM_E_10_38_09.bmp and SM_E_10_38_09.SPC file preview
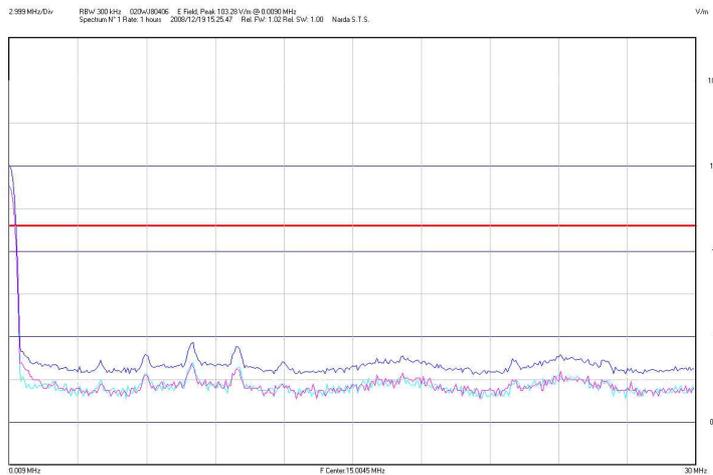
Table_mode.txt file preview

```
------------------------ Start Test ------------------------
Station: 020WJ80406 Reading : 18 02/01/2009 15.32.52 Rate: 1 min.
Rel. FW: 1.02 Rel. SW: 1.00

Frequency MHz              RBW           E V/m         H A/m
0.5                        300 kHz       0.1693        0.0080
  1                        300 kHz       0.0489        0.0065
1.5                        300 kHz       0.0492        0.0063
  2                        300 kHz       0.0296        0.0063
2.5                        300 kHz       0.0286        0.0064

Station: 020WJ80406 Reading : 22 02/01/2009 16.41.10 Rate: 1 min.

Frequency MHz              RBW           E V/m         H A/m
0.5                        300 kHz       0.0630        0.0020
  1                        300 kHz       0.0132        0.0019
1.5                        300 kHz       0.0131        0.0019
  2                        300 kHz       0.0089        0.0019
2.5                        300 kHz       0.0081        0.0018
------------------------ Stop Test ------------------------
```

- Log: All activities requested by manual interventions of the user or done automatically by the AMS-8063 are registered into a file whose name corresponds to the day that the event occurred.

The **Log** folder collects the "day" file dividing them by year (2008) and month (12).

03.txt file preview

```
2009/02/03  09.23.37:      Software Start
2009/02/03  09.23.42:      Scan Start (List Mode)
2009/02/03  09.23.43:      Reading battery: 0 V                                                            (020WJ80506)
2009/02/03  09.23.47:      Reading battery: 3.65 V                                                         (020WJ80506)
2009/02/03  09.23.51:      Reading battery: 3.65 V                                                         (020WJ80506)
2009/02/03  09.23.56:  *** Reading battery failed                                                          (020WJ80506)
2009/02/03  09.23.59:  *** Reading battery failed                                                          (020WJ80506)
2009/02/03  09.24.00:      Reading battery: 0 V                                                            (020WJ80506)
2009/02/03  09.24.03:  *** Set frequency: 0.009 MHz failed                                                 (020WJ80506)
2009/02/03  09.24.05:      Reading battery: 3.65 V                                                         (020WJ80506)
2009/02/03  09.24.12:      Reading battery: 3.65 V                                                         (020WJ80506)
2009/02/03  09.24.19:      Reading battery: 3.65 V                                                         (020WJ80506)
2009/02/03  09.24.27:      Reading battery: 3.65 V                                                         (020WJ80506)
2009/02/03  09.24.34:      Reading battery: 3.65 V                                                         (020WJ80506)
2009/02/03  09.24.41:      Reading battery: 3.65 V                                                         (020WJ80506)
2009/02/03  09.24.50:      Start Sweep Spectrum: E, (0.009 MHz – 30 MHz), 0.075 MHz, 300 kHz               (020WJ80506)
2009/02/03  09.24.53:      Stop Sweep Spectrum: E, Peak 255.47 V/m @ 0.0090 MHz WideBand: 255.47 V/m       (020WJ80506)
2009/02/03  09.24.53:      Reading battery: 0 V                                                            (020WJ80506)
2009/02/03  09.24.57:      Reading battery: 3.65 V                                                         (020WJ80506)
2009/02/03  09.25.01:      Reading battery: 3.65 V                                                         (020WJ80506)
2009/02/03  09.25.05:      Reading battery: 3.65 V                                                         (020WJ80506)
2009/02/03  09.25.09:      Reading battery: 3.65 V                                                         (020WJ80506)
2009/02/03  09.25.09:      Scan Close (List Mode)

2009/02/03  09.38.52:      Software Start
2009/02/03  09.38.52:      Scan Start (List Mode)
2009/02/03  09.38.57:      Reading battery: 3.58 V                                                         (020WJ80506)
2009/02/03  09.39.00:      Reading battery: 3.58 V                                                         (020WJ80506)
2009/02/03  09.39.04:      Reading battery: 3.58 V                                              |          (020WJ80506)
```

- **Uninstall:** This folder contains some file of the 8063SW02 uninstall software.
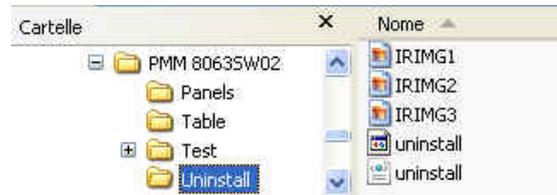
🖎 **NOTE**

By using Word or Excel application, click "File" and "Open", select "Type of file: all files", follow the path "Destination folder/Test/Station name/year/month/day", select the file and confirm with "Open".

4.3 Data display

4.3.1 Main commands

4.3.1.1 Open Scan

In the **File** menu**,** the **Open Scan** function allows:

- Display the data recorded in graph and table format (**Data folder**).

- Open the **Log** file where all activities are registered (**Events folder**)**.**
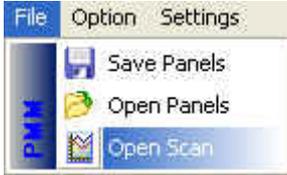
Data folder

← **Test** folder structure

← List of the file available

← list of filename extension available

Follow the path Station name/Year/Month/day.

List of filename extension includes:

SPC (Spectrum)
SPC (Spectrum)
JPG (Jpeg)
BMP (Bitmap)
TXT (Text)
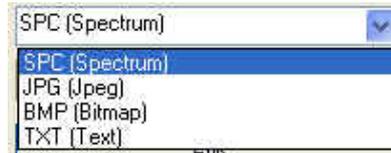
- SPC [Spectrum] (*.SPC). Properties file.

- JPG [Joint Photographic Experts Group] (*.JPG). jpeg image file

- BMP [BitMaP] (*.BMP). bitmap image file

- TXT [Text] (*.TXT) Text file

The list of file available will be displayed in order to the type of extension selected:

SM_E_17_15_20.SPC
SM_E_17_24_43.SPC
SM_E_17_26_30.SPC
SM_E_17_27_25.SPC
SM_E_17_28_06.SPC
SM_H_17_15_24.SPC
SM_H_17_24_48.SPC
SM_H_17_26_34.SPC
SM_H_17_27_30.SPC
SM_H_17_28_10.SPC

SPC (Spectrum)
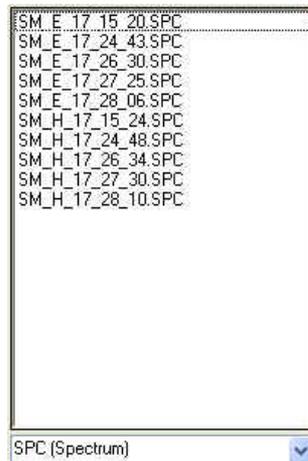
Select the file and confirm with **Open**.

As long as the file is not selected, the "Open" button is disabled
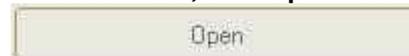
Open

Click **Exit** to go back to the main window.

By using Word or Excel application, click "File" and "Open", select "Type of file: all files", follow the path "Destination folder/Test/Station name/year/month/day", select the file and confirm with "Open".

Structure of the .TXT file   The Electric and/or Magnetic field value acquired in Spectrum mode will be stored in text format (see **Settings/Measure/Spectrum Mode/Settings).**

The .TXT file name shows the type of the field acquired and at which Hour, Minute and Second of the day it was detected.

An example of file name is *SM_E_10_38_09.txt* :

- *SM* = Spectrum mode
- *E* = Electric field
- *10* = Hour
- *38* = Minutes
- *09* = Seconds

SM_E_10_38_09.txt preview:

```
020WJ80406 2008/12/19 10.38.09 Narda S.T.S.
Rel. Fw: 1.02 Rel. Sw: 1.00
RBW:  300 kHz   Span: 29.991 MHz
E Field Peak 103.98 V/m @ 0.0090 MHz
Wideband: 103.98 V/m
Spectrum N° 1
Rate: 1 hours

    Freq         Total          X             Y             Z
    MHz          V/m           V/m           V/m           V/m
   0.0090       103.98        61.125        59.843        59.125
   0.0840        94.765       55.890        54.875        53.343
   0.1590        72.159       42.468        41.609        40.890
   ...
   ...
   ...
   ...
   ...
   ...
   ...
   ...
  29.7090        0.3984        0.2031        0.2500        0.2344
  29.7840        0.3701        0.2188        0.2188        0.2031
  29.8590        0.3977        0.2500        0.2188        0.2188
  29.9340        0.3707        0.2344        0.2031        0.2031
```

Each column is separated by the separator character previously selected (see **Settings/Measure/Spectrum Mode/ Text File Separator).**

Main informations are reported at the left of the top of the table.

When the field exceeds the threshold set, the value will be displayed with asterisks (*)(see **Settings/Measure/Spectrum Mode/Threshold).**

Structure of the .JPG, .BMP and .PCM file

The Spectrum analysis of the Electric and/or Magnetic acquired field will be stored in graph format (PCM and BMP or JPG file format). See **Settings/Measure/Spectrum Mode/Settings.**

The file name shows the type of the field acquired and at which Hour, Minute and Second of the day it was detected.

An example of file name is *SM_E_15_25_47.bmp*:
- *SM* = Spectrum mode
- *E* = Electric field
- *15* = Hour
- *25* = Minutes
- *47* = Seconds

SM_E_10_38_09.bmp preview:
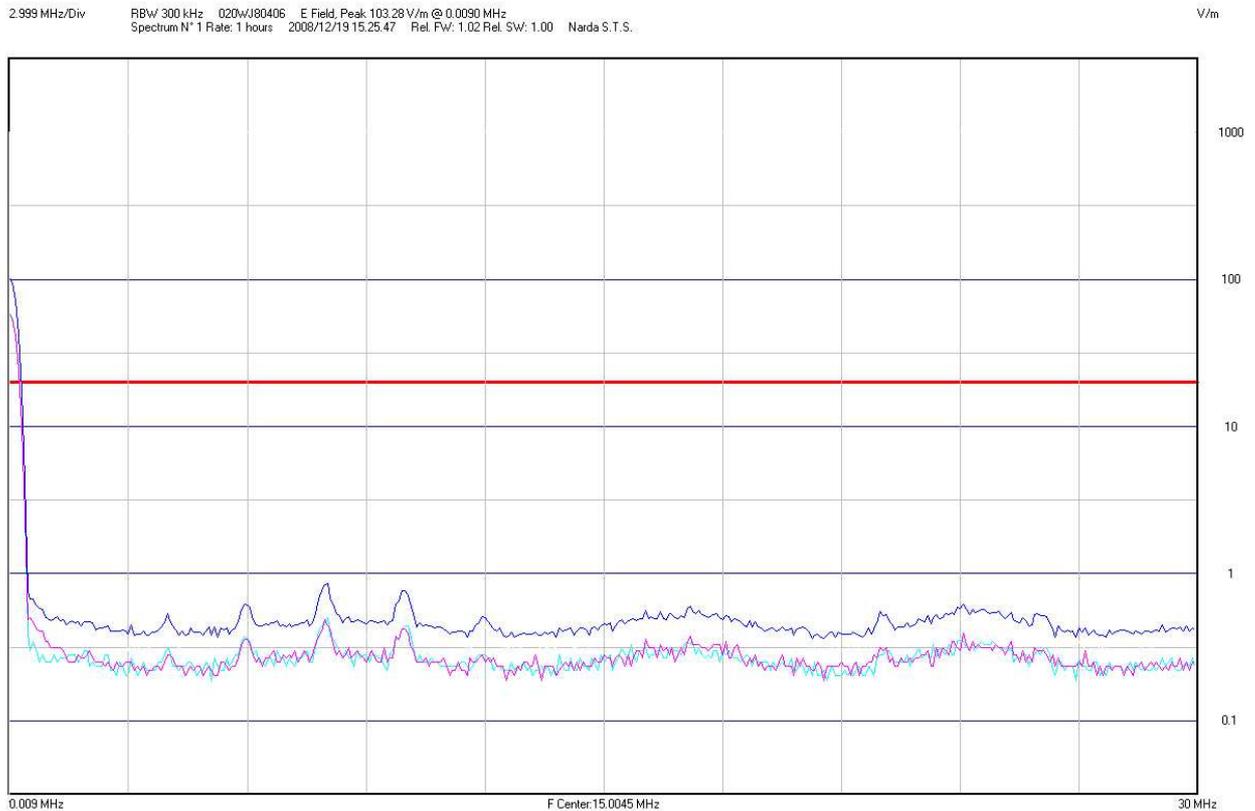
Main informations are reported at the left of the top of the image.

The horizontal red line shows the Threshold field (see **Settings/Measure/Spectrum Mode/Threshold).**

Structure of the Table.mode.txt file

The Electric and/or Magnetic field value acquired in *Table mode* will be stored in the **Table.mode.txt** file used by all station.

The **Reading** parameter indicates the number of the value read in the time interval set (**Rate**).

Table_mode.txt preview:

```
--------------------------- Start Test ---------------------------
Station: 020WJ80506 Reading : 17 03/02/2009 10.39.02 Rate: 1 min.
Rel. FW: 1.13 Rel. SW: 1.00

Frequency MHz              RBW          E V/m           H A/m
  0.009              3 kHz            0.0755          0.0000
    4              300 kHz            0.1073          0.0016
    5              300 kHz            0.1069          0.0016
    6              300 kHz            0.1262          0.0018
    7              300 kHz            0.1133          0.0015
    8              300 kHz            0.1223          0.0016
    9              300 kHz            0.1123          0.0016
   30              300 kHz            0.1540          0.0012

Station: 020WJ80506 Reading : 16 03/02/2009 10.40.14 Rate: 1 min.

Frequency MHz              RBW          E V/m           H A/m
  0.009              3 kHz            0.0780          0.0000
    4              300 kHz            0.1105          0.0016
    5              300 kHz            0.1068          0.0016
    6              300 kHz            0.1309          0.0019
    7              300 kHz            0.1152          0.0015
    8              300 kHz            0.1347          0.0017
    9              300 kHz            0.1193          0.0016
   30              300 kHz            0.1573          0.0012

Station: 020WJ80506 Reading : 16 03/02/2009 10.41.16 Rate: 1 min.

Frequency MHz              RBW          E V/m           H A/m
  0.009              3 kHz            0.0777          0.0000
    4              300 kHz            0.1112          0.0016
    5              300 kHz            0.1084          0.0016
    6              300 kHz            0.1350          0.0019
    7              300 kHz            0.1185          0.0015
    8              300 kHz            0.1299          0.0017
    9              300 kHz            0.1191          0.0016
   30              300 kHz            0.1533          0.0012   |
--------------------------- Stop Test ---------------------------
```

Data display

Event folder

The **Open scan** function also allows to display the Log file where all activities requested by the user or done automatically by the AMS-8063 are registered.

Follow the path: **Log**/Year/Month and select the day.

Select TXT (Text) filename extension.

 NOTE
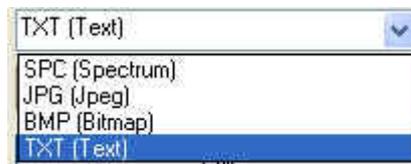
Must be selected TXT (Text) because all events are stored in text file.

The list of day available will be displayed:
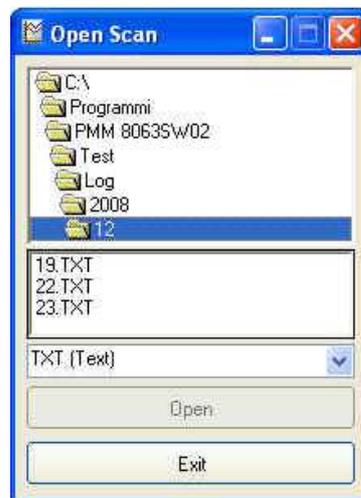
← **Test** folder structure

← List of the day available

← list of filename extension available

Select the file and confirm with **Open**.

 NOTE

As long as the file is not selected, the "Open" button is disabled

Click **Exit** to go back to the main window.

File Log preview:

```
A          B          C      D                                                                      E

2009/02/03 09.23.37:         Software Start
2009/02/03 09.23.42:         Scan Start (List Mode)
2009/02/03 09.23.43:         Reading battery: 0 V                                                  (020WJ80506)
2009/02/03 09.23.47:         Reading battery: 3.65 V                                               (020WJ80506)
2009/02/03 09.23.51:         Reading battery: 3.65 V                                               (020WJ80506)
2009/02/03 09.23.56:   ***   Reading battery failed                                               (020WJ80506)
2009/02/03 09.23.59:   ***   Reading battery failed                                               (020WJ80506)
2009/02/03 09.24.00:         Reading battery: 0 V                                                  (020WJ80506)
2009/02/03 09.24.03:   ***   Set frequency: 0.009 MHz failed                                       (020WJ80506)
2009/02/03 09.24.05:         Reading battery: 3.65 V                                               (020WJ80506)
2009/02/03 09.24.12:         Reading battery: 3.65 V                                               (020WJ80506)
2009/02/03 09.24.19:         Reading battery: 3.65 V                                               (020WJ80506)
2009/02/03 09.24.27:         Reading battery: 3.65 V                                               (020WJ80506)
2009/02/03 09.24.34:         Reading battery: 3.65 V                                               (020WJ80506)
2009/02/03 09.24.41:         Reading battery: 3.65 V                                               (020WJ80506)
2009/02/03 09.24.50:         Start Sweep Spectrum: E, (0.009 MHz - 30 MHz), 0.075 MHz, 300 kHz     (020WJ80506)
2009/02/03 09.24.53:         Stop Sweep Spectrum: E, Peak 255.47 V/m @ 0.0090 MHz WideBand: 255.47 V/m (020WJ80506)
2009/02/03 09.24.53:         Reading battery: 0 V                                                  (020WJ80506)
2009/02/03 09.24.57:         Reading battery: 3.65 V                                               (020WJ80506)
2009/02/03 09.25.01:         Reading battery: 3.65 V                                               (020WJ80506)
2009/02/03 09.25.05:         Reading battery: 3.65 V                                               (020WJ80506)
2009/02/03 09.25.09:         Reading battery: 3.65 V                                               (020WJ80506)
2009/02/03 09.25.09:         Scan Close (List Mode)


2009/02/03 09.38.52:         Software Start
2009/02/03 09.38.52:         Scan Start (List Mode)
2009/02/03 09.38.57:         Reading battery: 3.58 V                                               (020WJ80506)
2009/02/03 09.39.00:         Reading battery: 3.58 V                                               (020WJ80506)
2009/02/03 09.39.04:         Reading battery: 3.58 V                                               (020WJ80506)
```

A column: Data event (Year/Month/Day);
B column: Time event (Hour.Minute.Second);
C column: Three asterisks (***) will be displayed if a problem occur at the station;
D column: Description of the event;
E column: Serial number of the station.

NOTE   **The horizontal line is shown when the software is closed.**

5 – AMS-8063/WMK Wall Mounting Kit

5.1 Introduction

This chapter provides the necessary information for installation of AMS-8063 Area Monitor System on the wall by AMS-8063/WMK Wall Mounting Kit optional accessory.

It also includes information regarding the initial inspection, working environment, assembly, cleaning, storage and shipment.

☞ NOTE

**Wall Mounting Kit, optional accessory, is available for all AMS-8063 models.**
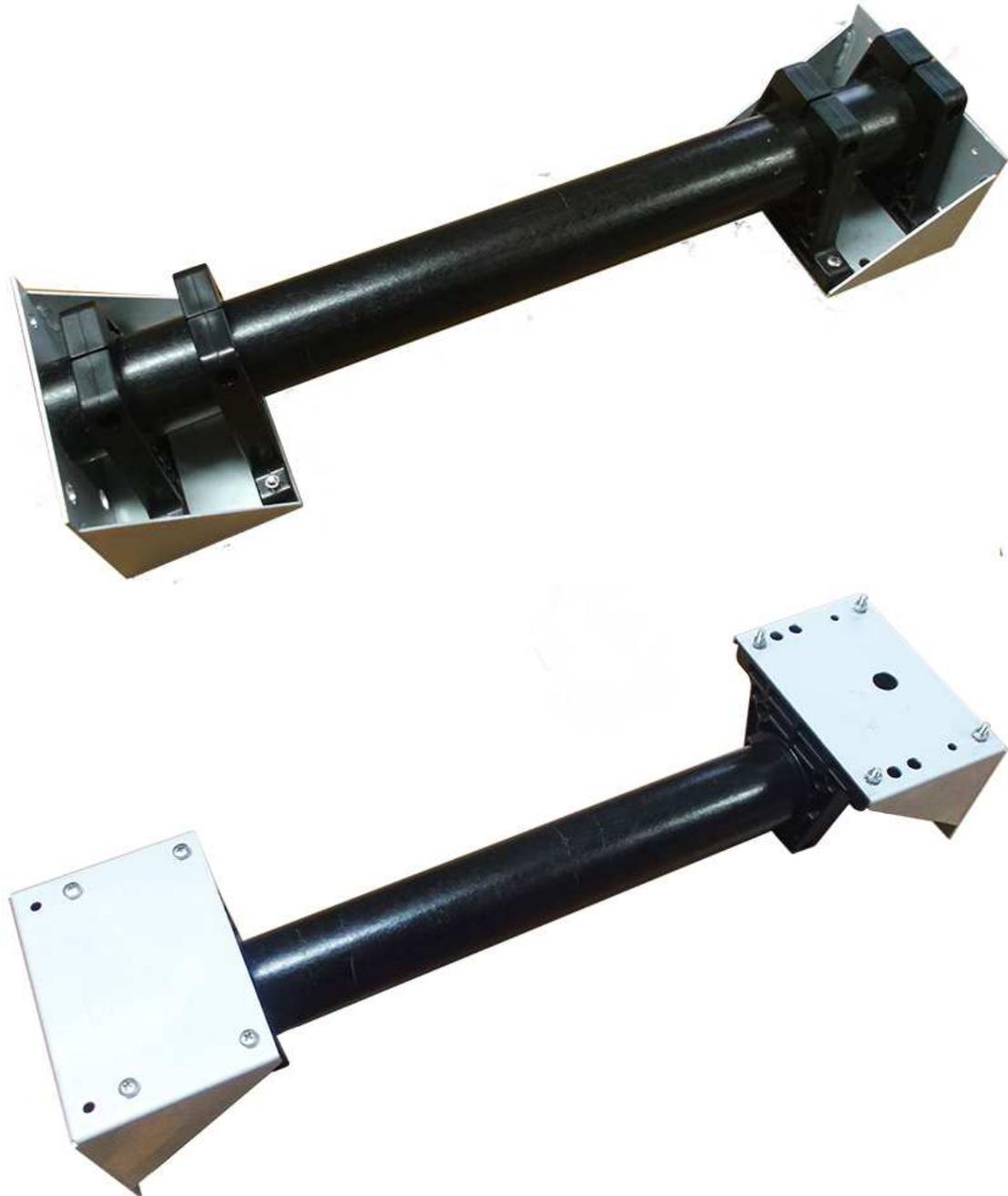
Fig. 5-1 AMS-8063/WMK Wall Mounting Kit

5.2 Initial inspection   Check the package for any damages.

⚠ WARNING

If the packing materials or protective materials are damaged, check the equipment and make sure it is complete with all parts and intact, without any mechanical or electrical damage.
Check the accessories with reference to the packing list enclosed with the device.
Report any damages at once to the shipping company and to NARDA.

5.3 Working environment   The working environment for the accessories, unless specified otherwise, must be in the following ranges:
- Temperature   from -20°C to +50°C
- Relative humidity   < 95%

The accessories should be stored in a clean, dry place free of acids, dusts and humidity.

The storage environment must be in the following ranges:
- Temperature   from -20°C to + 70°C
- Relative humidity (without condensation)   < 99% relative

5.4 Returning for repair   Any part of the instrument can only be replaced by NARDA, therefore, in case of damage to parts and/or malfunctions, contact the NARDA service center.
When the instrument has to be returned to NARDA for repair, the User is kindly requested to fill out the questionnaire enclosed with this User's Manual and write all the required service information and a full description of the malfunction, to enable NARDA to repair the device in the shortest possible time.
To reduce the time necessary for the repair, be as specific as possible in describing the malfunction. If the problem only occurs under specific conditions, detail in the best possible way how to reproduce these conditions.
Whenever possible, use the original packing when returning items, and make sure to wrap the device in heavy paper or plastic.
If the original package material is no longer available, use a sturdy card box and a sufficient quantity of impact absorbing material all around the equipment to provide a tight fit and prevent its moving inside the packing.
In particular, take every precaution to protect the solar panels.
Seal the packing securely and write FRAGILE on the container to encourage better care in handling.

5.5 Cleaning   Use a clean, dry, soft cloth to clean the instruments.

⚠ WARNING

Do not use solvents, acids, turpentine, acetone or similar products to clean the instruments to prevent damages.

5.6 Installation

AMS-8063/WMK is an easy to install kit to transform the well-known AMS-8063 Area Monitor System, usually adopted for ground installation, in a version designed to be mounted on the wall:

1. Remove the four screws and take off along its axis the protective case from the monitoring unit.

2. Switch the EHP-8063 off;

3. Unplug the power supply connector from the 8063-Shutter holding by the plastic part; remove the power cable from the baseplate unscrewing the nut.


4. Disconnect the Fiber optic from the Optical converter holding by the metallic part; remove the Fiber optic from the baseplate unscrewing the nut (AMS-8063-02 only).

5. Disconnect the RS232 cable (AMS-8063-01 only).

6. Remove the receiver unit from the pole unscrewing the Pan head screw inside the both PA6 black brackets without losing it completely.

7. Remove the metallic bracket from the receiver baseplate unscrewing the four countersunk screws, nut and washers.
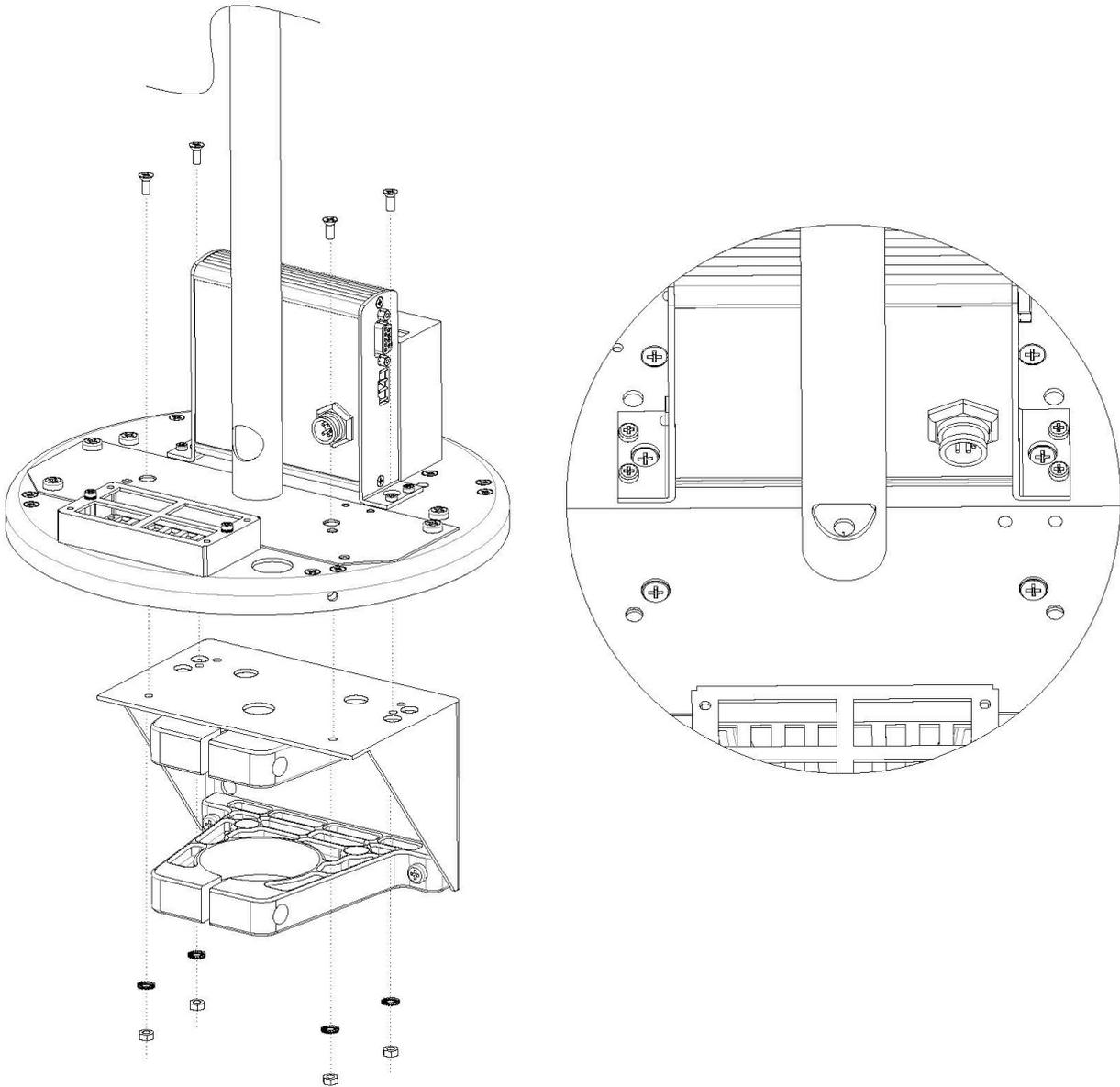
8. Remove the metallic bracket (<u>it will be fixed on the wall</u>) from the AMS-8063/WMK kit unscrewing the Pan head screw inside the both PA6 black brackets without losing it completely; remove the PA6 black bracket from the same bracket as shown below.

Install the AMS-8063/WMK Wall Mounting Kit on the receiver baseplate.
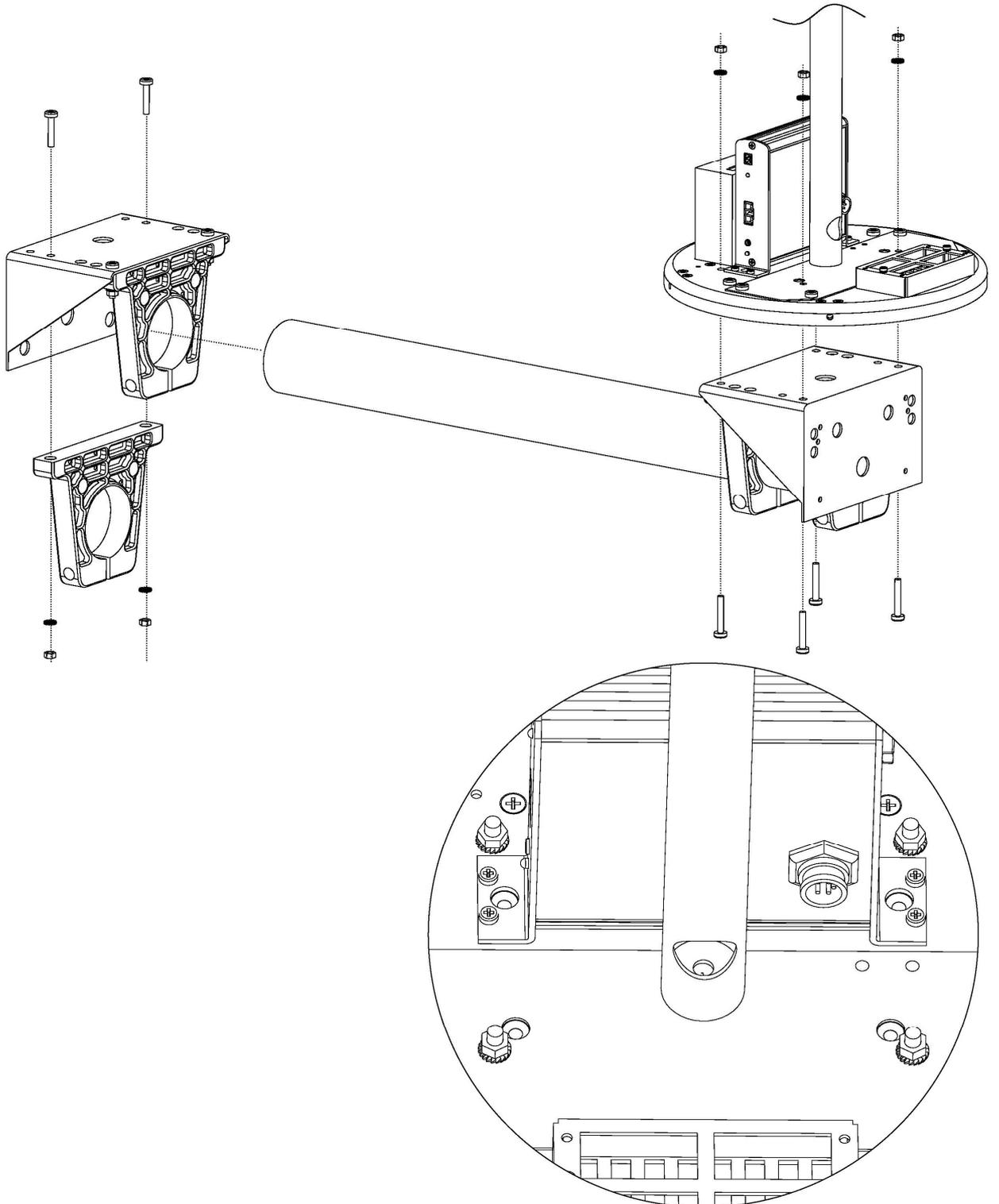
9. Fix the metallic bracket on the wall by the wall plug, washer and nut provided with the AMS-8063/WMK Wall Mounting kit.
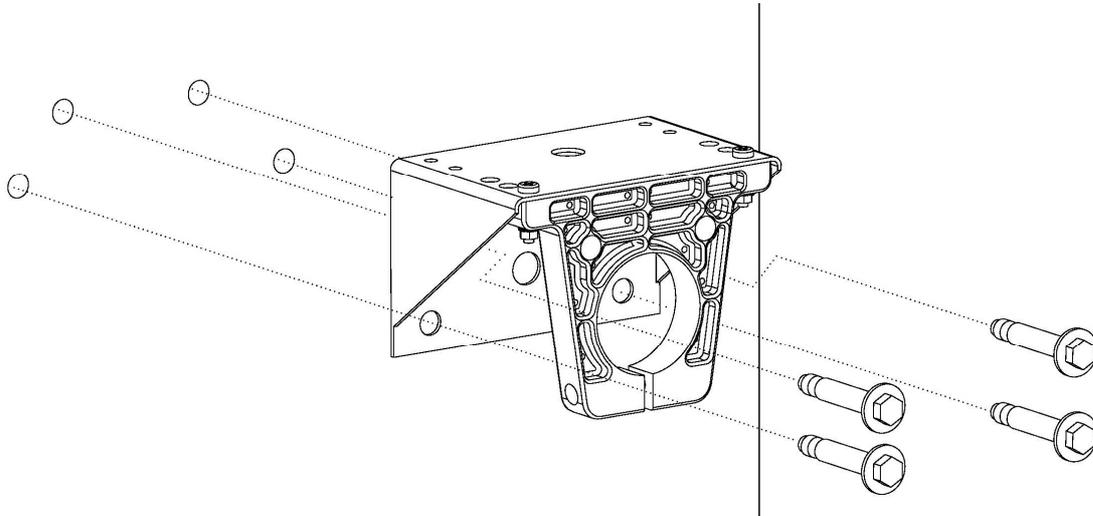
10. Install the PA6 black bracket previously removed.
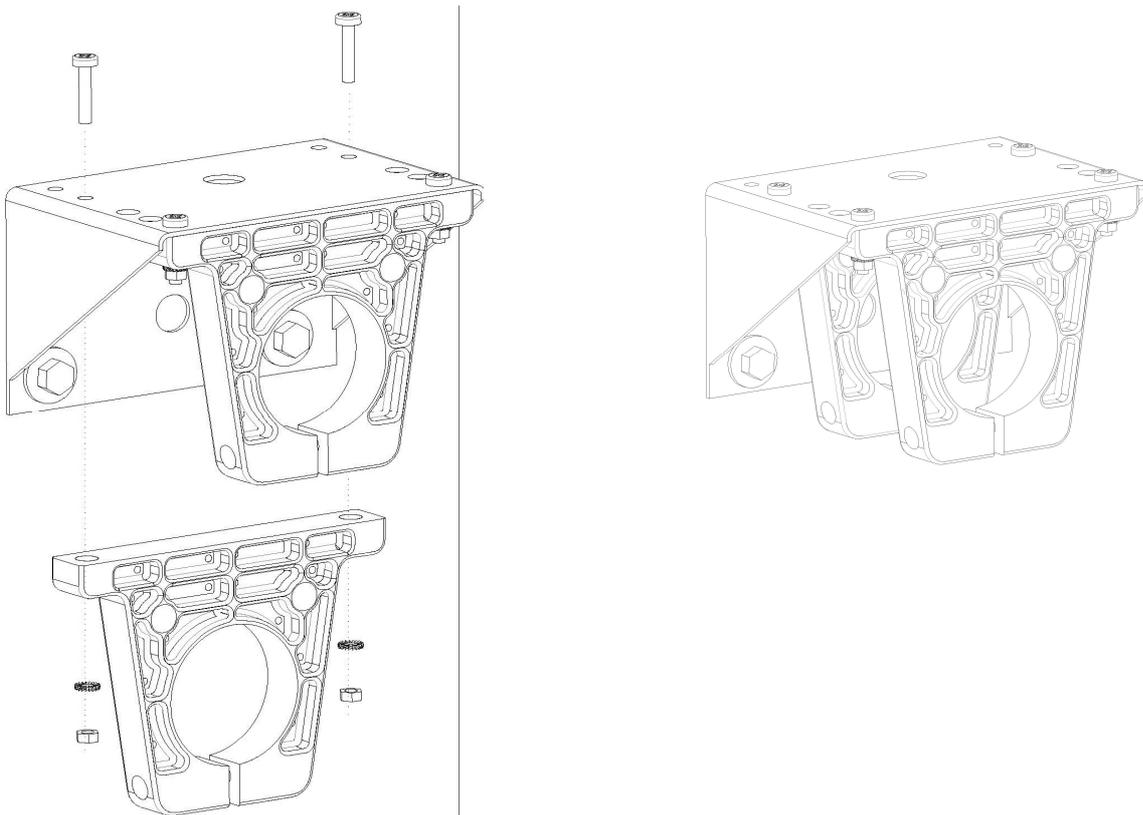
11. Insert and slide the pole of the AMS-8063/WMK into the both PA06 wall bracket; fasten the unit by tightening the bracket screws;
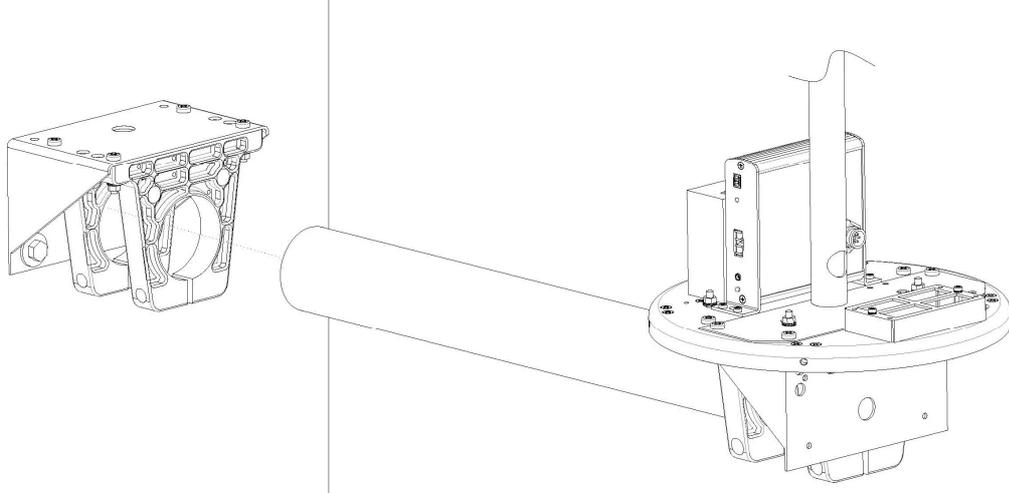
12. Install the Support base close to the AMS-8063 Area Monitor system; whenever possible install the Solar panels (AMS-8063-00 and AMS-8063-01 only) paying attention to orienting toward south (in the northern boreal hemisphere) the solar cells;

13. Install the Fiber optic by mounting the chock in the hole of the receiver baseplate, plug the Fiber optic to the Optical converter holding by the metallic part; pay attention to the correct correspondence (AMS-8063-02 only)

14. Install the power cable by mounting the chock in the hole of the receiver baseplate, plug the power supply connector to the 8063-Shutter by the plastic part.

15. Connect the RS-232 cable (AMS-8063-01 only)

16. Switch the EHP-8063 on;

17. Check the Led EHP-8063 status;

18. Check the LEDs 8063-Shutter status;

19. Switch the AMS-8063-02 Interface box on

20. Check the status of the Led WiFi (AMS-8063-00) (**see the User's Manual provided with the device**).

21. Insert along its axis the protective case and tight the four screws to fix the Radome;

22. Complete a charge cycle before starting measurements;

23. Run the 8063SW02 software;

24. Display and manage of the data downloaded.
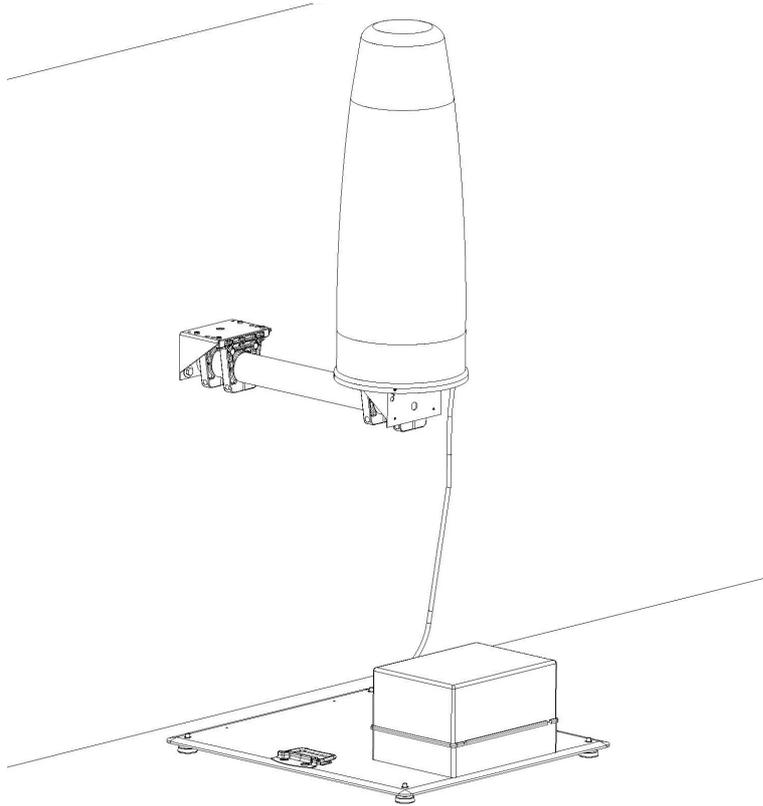
**Fig. 5-2** AMS-8063/02 on AMS-8063/WMK Wall Mounting Kit
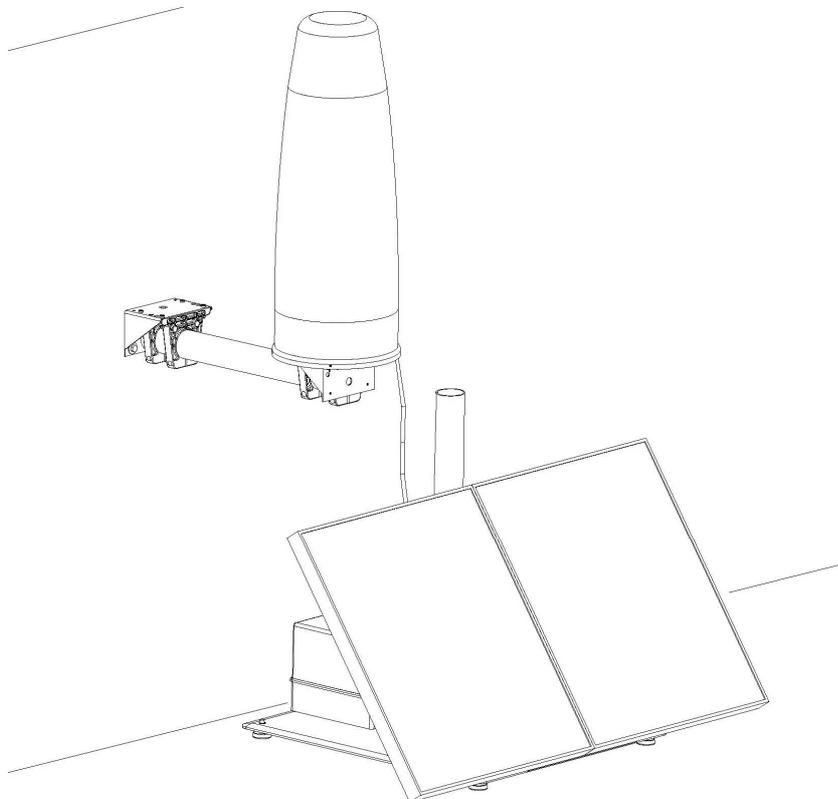
Fig. 5-3 AMS-8063-00 or AMS-8063-01 on AMS-8063/WMK Wall Mounting Kit

6 – Service

Service

6.1 Service

Air Filters replacement

The filter has a crucial role in the efficiency and performance of your AMS-8063 system. The filter is housed on the top of the baseplate, provides protection from dust and dirt and prevent damage to the unit and its components; when filter become dirty, your unit may experience reduced airflow and increased significantly its internal temperature. Clean air filter can preserve the AMS-8063 from damage and potentially expensive repairs; to protect the unit, new filter is essential.
The replacement interval for the filter depends on the cleanliness of the operating environment.

Item includes (refer to Fig.6-1 on page 6-2):
1) Button head cap M5 screw (3 pcs.)
2) Plastic washer Ø5mm (3 pcs.)
3) Radome
4) Baseplate
5) Pan head M3 screw (2 pcs.)
6) Tooth washer Ø3mm (2 pcs.)
7) Shield filter
8) Plastic baseplate filter grid
9) Baseplate filter

This section performs your filter replacements and keep your AMS-8063 working optimally:

1 – 2 – 3 - 4) Unscrew the screws from the receiver baseplate and **remove along its axis the protective case; to avoid damage the interlock do not turn the radome of the monitoring station when opening.**

5 – 6 - 7) To remove the shield filter from the baseplate, unscrew the Pan head screw housed on the top of the shield self.

8 – 9) Remove plastic grid and filter; clean the shield filter before replacing the filter with a new one.

NOTICE

**It is suggested to replace air filter at least once a year or more frequently if needed.**
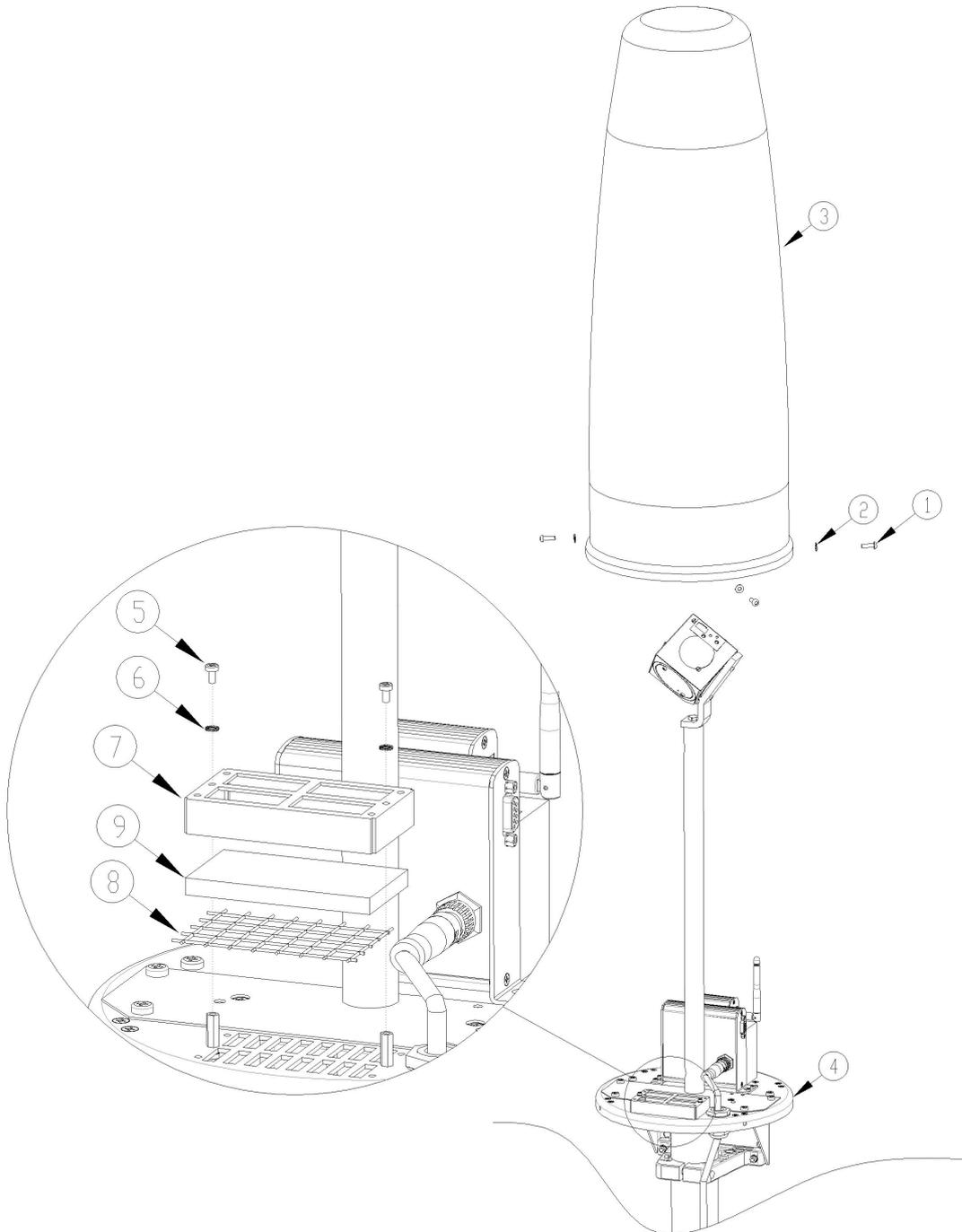
Fig. 6-1 Air filter replacement

7 – Packaging Instructions

7.1 Introduction

This section provides the information useful for a correct packaging in case the unit has to be returned for service to the factory or whenever you need to prepare the AMS-8063 unit for shipment.

The station should be disassembled stepping back the installation procedure included in chapter 2

The unit includes parts that are sensitive to mechanical shocks as well as heavy ones like the power pack. It is therefore suggested to follow carefully the packing instructions to avoid damages due to the shipment.

The following instruction provide several picture useful to identify the various boxes of the original packaging and their use.

7.2 Packaging instructions

Box **A** contains accessories

Box **B** contains Power Pack and Box **A**
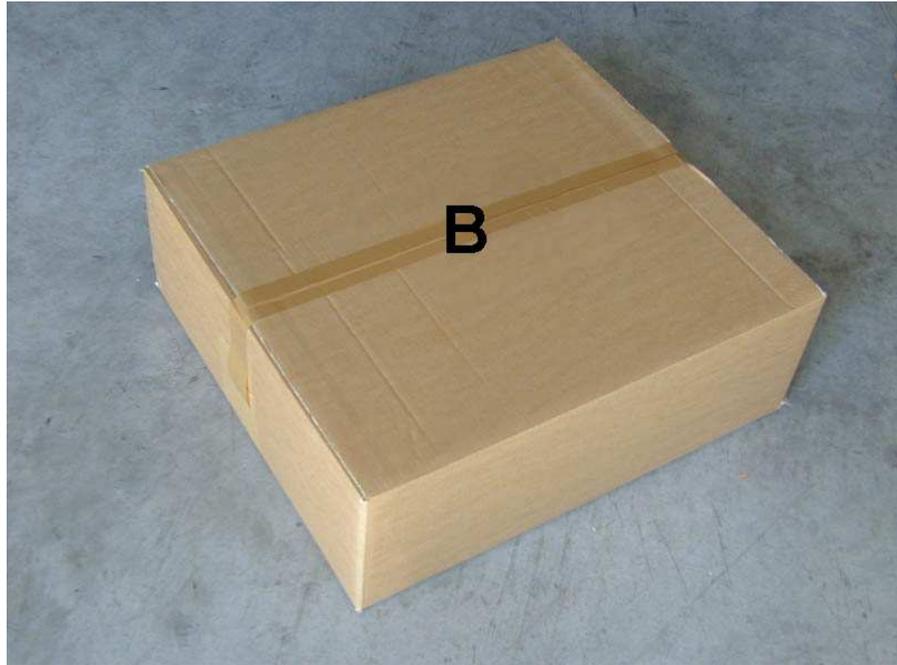
Box **C** contains the monitoring unit with radome.

Box **D (main box)**

Insert **Box B** in the **Box D**
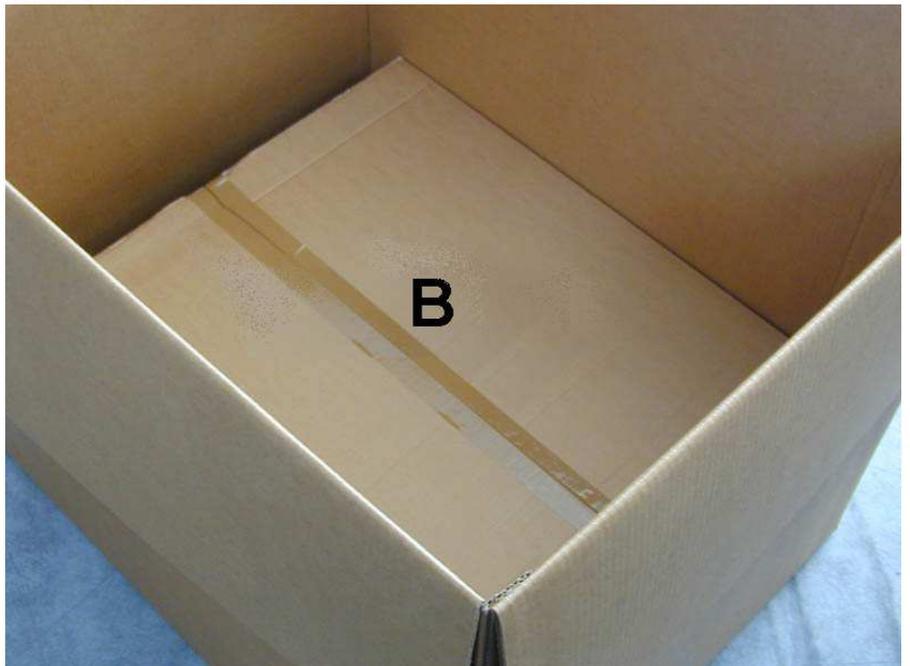
Insert **Box C** in the **Box D**

Insert the solar panels (twin pair) in the **Box D**. (AMS-8063-00 and AMS-8063-01 only).

Box **D (main box)** packing

Use pallet and straps for the final packing

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Caro cliente

grazie per aver acquistato un prodotto NARDA! Sei in possesso di uno strumento che per molti anni ti garantirà un'alta qualità di servizio. NARDA riconosce l'importanza del Cliente come ragione di esistenza; ciascun commento e suggerimento, sottoposto all'attenzione della nostra organizzazione, è tenuto in grande considerazione. La nostra qualità è alla ricerca del miglioramento continuo. Se uno dei Suoi strumenti NARDA necessita di riparazione o calibrazione, può aiutarci a servirla più efficacemente compilando questa scheda e accludendola all'apparecchio.

Tuttavia, anche questo prodotto diventerà obsoleto. In questo caso, ti ricordiamo che lo smaltimento dell'apparecchiatura deve essere fatto in conformità con i regolamenti locali. Questo prodotto è conforme alle direttive WEEE dell'Unione Europea (2002/96/EC) ed appartiene alla categoria 9 (strumenti di controllo). Lo smaltimento, in un ambiente adeguato, può avvenire anche attraverso la restituzione del prodotto alla NARDA senza sostenere alcuna spesa. Può ottenere ulteriori informazioni contattando i venditori NARDA o visitando il nostro sito Web www.narda-sts.it.

Dear Customer

thank you for purchasing a NARDA product! You now own a high-quality instrument that will give you many years of reliable service. NARDA recognizes the importance of the Customer as reason of existence; in this view, any comment and suggestion you would like to submit to the attention of our service organization is kept in great consideration. Moreover, we are continuously improving our quality, but we know this is a never ending process. We would be glad if our present efforts are pleasing you. Should one of your pieces of NARDA equipment need servicing you can help us serve you more effectively filling out this card and enclosing it with the product.

Nevertheless, even this product will become obsolete. When that time comes, please remember that electronic equipment must be disposed of in accordance with local regulations. This product conforms to the WEEE Directive of the European Union

(2002/96/EC) and belongs to Category 9 (Monitoring and Control Instruments). You can return the instrument to us free of charge for proper environment friendly disposal. You can obtain further information from your local NARDA Sales Partner or by visiting our website at www.narda-sts.it.

☑ **Servizio richiesto:** ☑ *Service needed*:

| ☐ Solo taratura | ☐ Riparazione | ☐ Riparazione & Taratura | ☐ Taratura SIT | ☐ Altro: |
| ☐ Calibration only | ☐ Repair | ☐ Repair & Calibration | ☐ Certified Calibration | ☐ Other: |

Ditta:
Company:

Indirizzo:
Address:

Persona da contattare: **Telefono:**
Technical contact person: *Phone n.*

Modello: **Numero di serie:**
Equipment model: *Serial n.*

☑ ***Accessori ritornati con l'apparecchiatura:*** ☐ **Nessuno** ☐ **Cavo(i)** ☐ **Cavo di alimentazione** **Altro:**
☑ *Accessories returned with unit:* ☐ None ☐ Cable(s) ☐ Power cable Other:

☑ ***Sintomi o problemi osservati:*** ☑ *Observed symptoms / problems*:

| ☑ *Guasto*: ☐ **Fisso** | ☐ **Intermittente** | *Sensibile a :* ☐ **Freddo** | ☐ **Caldo** | ☐ **Vibrazioni** | ☐ **Altro** |
| ☑ *Failure*: ☐ Continuous | ☐ Intermittent | *Sensitive to*: ☐ Cold | ☐ Heat | ☐ Vibration | ☐ Other |

Descrizione del guasto/condizioni di funzionamento:
Failure symptoms/special control settings description:

Se l'unità è parte di un sistema descriverne la configurazione:
If unit is part of system please list other interconnected equipment and system set up:

Suggerimenti / Commenti / Note:
Suggestions / Comments / Note:

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