AMB-8057

AREA MONITOR BROADBAND

User's Guide
to the GPRS/FTP
communication

AMB-8057/02
AMB-8057/03

SERIAL NUMBER OF THE INSTRUMENT
You can find the Serial Number near the probe connector.
Serial Number is in the form: 000XY0000.
The first three digits and the letters are the Serial Number prefix, the last four 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 and L3 Communications Holdings, Inc. – Trade names are trademarks of the owners.

If the instrument is used in any other way than as described in this Users 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.

This product is a **Safety Class III** and 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).

This product has a **Pollution Degree II** normally only non-conductive pollution occurs. Occasionally, however, a temporary conductivity caused by condensation must be expected.

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

KEY TO THE ELECTRIC 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 potential risk to a person's safety. All the precautions must be fully understood and applied before proceeding.**

WARNING — **The WARNING sign draws attention to a potential risk of damage to the apparatus or loss of data. All the precautions must be fully understood and applied before proceeding.**

CAUTION — **The CAUTION sign draws attention against unsafe practices for the apparatus functionality.**

NOTE: — **The NOTE draw attention to important information.**

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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.

EC Conformity Certificate

(in accordance with directive EMC 89/336/EEC and low voltage directive 73/23/EEC)

This is to certify that the product: AMB-8057 Area Monitor Broadband

   Produced by: NARDA S.r.l.
                Safety Test Solution
                Via Benessea 29/B
                17035 Cisano sul Neva (SV) - ITALY

complies with the following European Standards:
Safety: CEI EN 61010-1 (2001)
EMC: EN 61326-1 (2007)

This product complies with the requirements of Low Voltage Directive 2006/95/CE and with Directive EMC 2004/108/CE.

NARDA S.r.l.

1 – General Information

1.1 Introduction

This document refers to AMB-8057 area monitor (FTP version) used in conjunction with 8057SW-02 control software.

AMB-8057 area monitors can be set to operate using two different communication modes, both using the GSM network: CSD (Circuit Switched Data) and GPRS (General Packet Radio Service) / FTP.
The user should decide in advance the communication mode for each station as CSD communication mode is not allowed while a station set for GPRS/FTP and viceversa.

This document provides operating instructions and suggestions to correctly use AMB-8057 area monitor set for GPRS/FTP communication mode.

Please refer to the AMB-8057 user's manual for all information not included in this document.

1.2 Brief description of GPRS communication

When a GPRS modem switches on it links up with the GPRS network.
Assuming that parameters such as Access Point Name, User Name and Password are correctly set by the user, the modem accesses the Internet to establish packet data communication towards other devices identified by their IP address.

Unlike CSD data communication there is no need to establish a direct connection between two devices by means of a call to a telephone number. Each data packet put in the network includes the receiver IP address so that any packet can be delivered efficiently.

In GPRS mode the telephone channel is not engaged continuously but only when some data have to be transmitted. In this way a single telephone channel can be shared between users or more channels can be used at the same time to improve the communication speed.

Usually there is no need to ask the provider for specific data service as the provided SIM cards are normally enabled for GPRS.
An evident advantage using internet for data exchange is that it allows access to data from anywhere, at low cost, regardless distance.

1.3 Monitoring networks

The monitoring network is a system composed by one to several AMB-8057 remote monitoring stations and a controller PC running the 8057SW-02 control software.

Remote stations continuously perform field measurements and store results in their internal memory.
At programmed time each station downloads the stored results to the controller PC in a different way depending on the communication method that have been decided in advance.
In this document GPRS/FTP communication method only is taken into consideration.

1.4 System operation in FTP mode

After initial installation there is no direct communication between remote stations set for FTP mode and controller PC.

An FTP server with a static IP address is always available, presuming availability of the GSM signal at the remote station installation site, for AMB-8057 to download data to the server itself.

When connecting to the server the remote station will check for the existence of any request to modify its setting or to download results related to some specific time interval.

In case, the station will proceed accordingly by changing its setting or by downloading the requested data. If no special requests is found the station downloads all measurement results which have been acquired since the previous access to the server.

To avoid generating undesired electromagnetic fields that would be measured by the station itself, the station GSM/GPRS modem, which allows communication with the FTP server, should be set to be off for the major part of the day.

At the programmed time, set by the user, the modem switches on and the station access the ftp server to download its results.

Depending on the setting decided by the user, various abnormal conditions regarding field strength and station operation, generate alarm events able to immediately switch on the modem to access the server and /or send SMS to the user's mobile phone.

Being the modem a power consuming component, it is advisable to avoid programming the station to access the server more than once a day to avoid, specially during bad weather periods, affecting the energy balance between solar panel and battery backup.

The main interface to the system, from the operator side, is the controller PC.

When desired, through the control software 8057SW-02, the user can select a remote station from the station list and access the station folder opening an ftp connection to the server.

All data not already downloaded from the server to the controller PC are then uploaded and a new setting file, if requested by the user, is transferred to the server to be read by the station when it will access the server.

The controller PC needs a full internet connection allowed for File Transfer Protocol.

Due to the GSM network signal quality it may happens, sometimes, that the station is not able to access the ftp server at the scheduled time. No data will be anyway loss being downloaded at the next time connection.

1.5 Some advantages

Any remote unit (AMB-8057 area monitor) downloads its data to the FTP server, at scheduled time, according to the user setting.

The controller PC is able to retrieve them whenever desired without any need to establish a direct connection to the remote station.

Integrity check of transmitted data is automatically performed by the remote station.

In case of bad GSM signal quality, remote stations automatically try several times to access the network and download measurement results.

The small dimensions of data files normally transferred by our systems make it convenient to chose telephone charges based on data volume usually available for GPRS service.

2 – General Requirements

2.1 Remote station

Remote station:

- A SIM card enabled for GPRS communication must be provided by the user and inserted in the SIM card slot according to instruction provided by the AMB-8057 user's manual.
- The SIM card PIN code must be disabled using a mobile phone

Information required for GPRS communication:

- **APN** (Access Point Name)
- **UN** (User Name)
- **PW** (Password)

The above parameters are specific of the SIM card provider, it often happens that User Name and Password are not required.

Some examples:

Italy: APN for a Vodafone SIM card is: web.omnitel.it
User name and password are not required.

Greece: APN for a Cosmote SIM card is: internet
User name and password are not required.

China: APN for a China Mobile (Shanghai) SIM card is: cmnet
User name and password are not required.

Configuration of the above, as well as ftp server parameters must be done in advance, before on site installation, using the controller PC running the provided 8057SW-02 control software or, as an alternative, by means of specific messages (SMS) to be sent to the station telephone number.

A Narda STS ftp server is available to our customer for preliminary tests:

IP address: 62.152.127.237
User Name: 8057
Password: pmmpass

2.2 Minimum requirements of the controller pc

Minimum requirements of the controller pc

- Operating system: Windows XP, Vista
- Pentium processor;
- at least 16 Mb RAM;
- at least 10 Mb of space free on your hard disk;

- Full Internet connection (**the PC and network firewall should not close the ports 20 and 21 normally used for FTP connection**)
- 8057SW-02 provided control software should be installed

8057SW-02 control software has been developed to operate properly with different Date /Time formats that can be selected through the Regional Settings of the Windows Control Panel.
Not all the possible combinations has been tested.
A functional test by setting European format (dd/MM/yyyy , HH:mm:ss) is suggested in case a malfunction is noticed.

2.3 FTP server requirements

FTP server requirements:

A STATIC IP address is required for the FTP server.

The following information regarding the ftp server must be available to set-up correctly remote units and controller PC:

IP address (it is the static IP address assigned to the ftp server)
User name and Password (to be allowed to exchange data with the ftp server)

2.4 Brief operating description and file structure

Basically, at scheduled times, the AMB8057 regularly establishes, via GPRS, a connection to the server and through FTP:
- First it loads, if any, all the (new) settings which have been written by the (client) application.
- Then it writes all data that have been requested by the application.
- Finally it erases all previous required settings in order to avoid reloading them at the next connection. Note that data related to field measurements are never deleted by the station.
After that the connection is terminated.

2.5 Structure

To avoid having multiple stations that store data in the same directory every data exchange is done on a directory named as the serial number of the monitoring station itself. Here, an example of directory structure:
FTP_Root
> **000WE80201**
>> 8057.CFG
>> 8057.set
>> 8057FLD.TXT
>> 17_08_01_07_09_.D57
> **000WE80202**
>> 8057.CFG
>> 8057.set
>> 8057FLD.TXT
>> 20_00_01_07_09_.D57

Directories are created by the control software, at the first connection to the server, after the station parameter set-up has been completed. Remote station will not create any directory. The user must ensure that the directory have been created before operating the remote station.

2.5.1 CFG File (configuration)

Whenever the AMB8057 connects to GPRS and accesses to FTP server, it looks for a file named **8057.CFG** in its directory (its serial number). If the file is present, the AMB8057 retrieves it and calculates the checksum in order to use it and thus get the new configuration. If the checksum is wrong, the file is discarded otherwise the new configuration is taken.
It is important to note that the new setting will not take effect immediately but only after the connection is closed.

2.5.2 FLD File (Read)

After having dealt with the configuration file **8057.CFG**, the AMB8057 check for the presence of a file named 8057FLD.TXT.
This, is an ASCII file which contains the date of the first requested record and the number of them.
The syntax is: **FLD HH:mm;GG/MM/YY;n** where:
- HH is hour of the day.
- Mm is minute of the day.
- GG is the day.
- MM is the month.
- YY is the year
- n is the number of records required (if n="---" then all records starting from the date/hour up the last recorded record will be uploaded).

For example the string FLD **18:13;23/07/09;100**
Asks for 100 records from the 23th of July 2009 at 18:13 .

If, instead, the string would have been FLD **18:13;23/07/09;---**
It would ask for all records from the 23th of July 2009 at 18:13 up to now.

Note that, in case of "---" (up to now option), in order to avoid huge files and long transfer time, the number of records will be limited to about 5000.

Once the AMB8057 has read the file 8057FLD.TXT, it deletes it. It will be replaced later with the newer self created 8057FLD.TXT which reflects the last uploaded record.
This solves the continuity of records even without any external intervention. Indeed, for every connection the AMB8057 uploads the records and writes a new FLD file which reports the date/hour of last record so that next connection will continue from this having thus an uninterrupted series of records .

2.5.3 Record File (Write)   After having read the FLD file, which informs the AMB8057 about which records have to be uploaded, it writes a file named **HH_mm_GG_MM_YY.D57** where:

- HH is hour of the day.
- Mm is minute of the day.
- GG is the day.
- MM is the month.
- YY is the year

This file, in binary format, contains the downloaded measurement results.

2.5.4 FLD File (Write)   After having written the record file **HH_mm_GG_MM_YY.D57**, the AMB8057 writes the file named 8057FLD.TXT which replaces the old one. This, is an ASCII file which contains the date of the last uploaded record and terminates with the string "---".
The content will be therefore: **FLD HH:mm;GG/MM/YY;---**   where:

- HH is hour of the day.
- Mm is minute of the day.
- GG is the day.
- MM is the month.
- YY is the year

For example the string FLD **20:30;23/07/09;---**
Says that the last updated record is related to the date of 23th of July 2009 at 20:30 .

If the user does not need a specific period but, as usual, a simple continuous data logger , there is no need to write any FLD File as the system is self-sufficient.

2.5.5 Event File (Write)   After having written the FLD file, the AMB8057 writes a file named **HH_mm_GG_MM_YY.TXT** where:

- HH is hour of the day.
- Mm is minute of the day.
- GG is the day.
- MM is the month.
- YY is the year

Which represents the events file.
This, is an ASCII file which contains all the new events since last connection.
Alternatively, soliciting a connection, by the SMS command, different event history can be retrieved as follows:

- SCGNA : all the stored events are written in EVENT.TXT file
- SCGNL : The last 20 events are written in EVENT.TXT file

The content of EVENT file is the chronological history of all events up to the time of connection (RTC setting assumed to be correct).

3 – First installation and Parameter setting

First configuration of each station and its functional test should be performed before installing the station on site.
User must ensure that the GSM signal is available in the installation site.
Refer to the user manual for details regarding battery charging, station positioning and other information about installation.

Main steps:

1 – SIM card installation

Fig. 3-1 SIM card installation

2 – Set-up the remote unit and recharge batteries as explained in the user manual

3 – Install 8057SW-02 control software in the controller PC by running 8057NSTS Setup.exe, rel.2.05 or later, and follow on screen instructions.

4 – Check the COM port number assigned to the PC RS232 port (or USB/RS232 adapter)
It may happen, using USB/RS232 adapter, that the assigned COM port number exceed 09.
In this case change the setting of your USB/RS232 adapter driver in the Windows control panel (advanced setting) to assign a COM port number between 01 and 09.

5 – Click right the 8057SW-02 icon in your desktop and open Properties

Add the command COMM=x (preceded by space) to the "destination" line.
x represent the COM port number assigned to your RS232 port.
Click "Apply" and "OK"

6 – Connect the RS232 cable between remote station and PC and run
8057SW-02 control software.
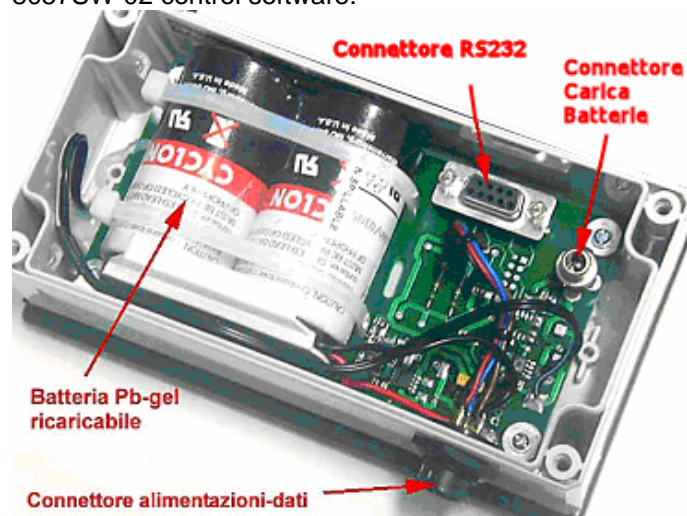
7 – Set Terminal and Setting passwords as requested by the software (If desired, Terminal and Setting passwords can be the same word). Take note of your passwords as they are needed to operate the application software.

8 – Select FTP section in the top side of the main window
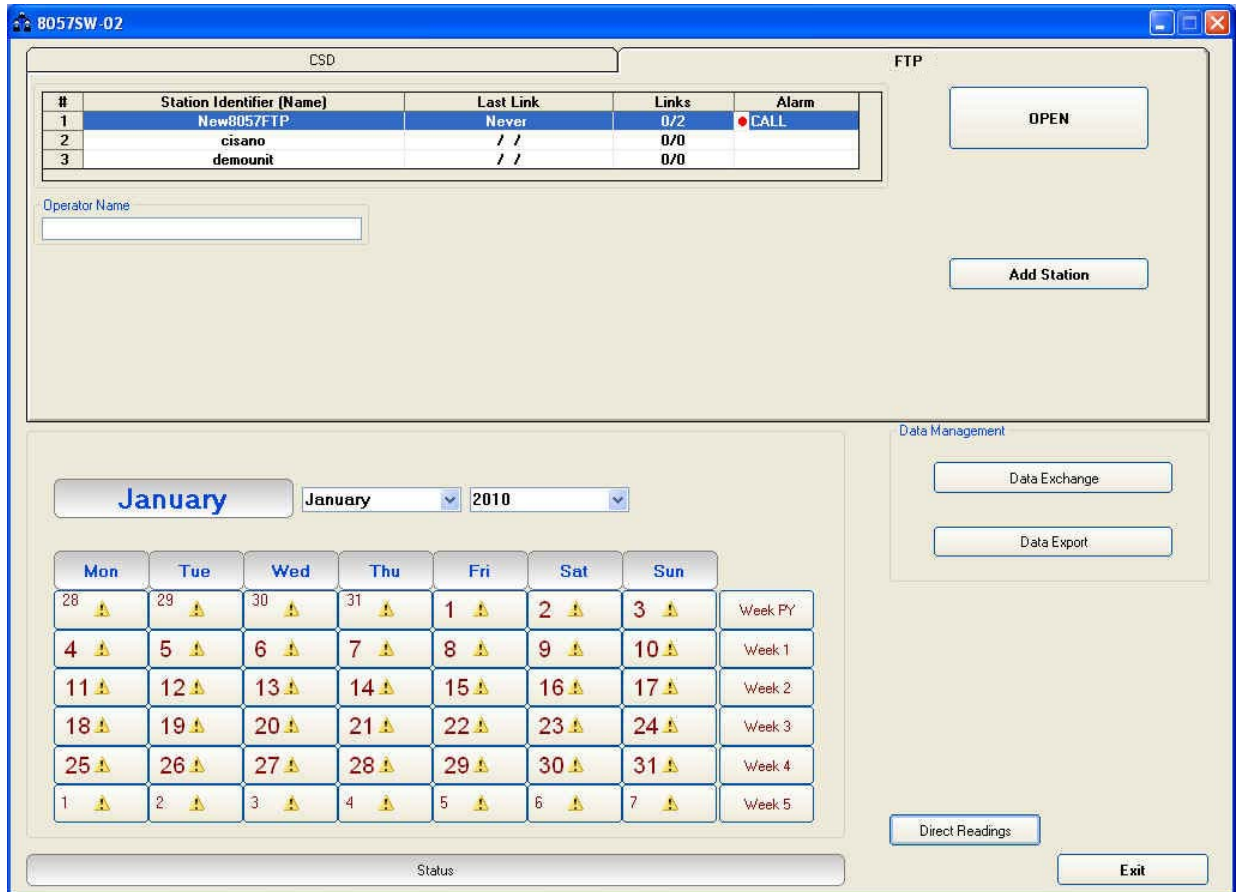
Fig. 3-2 Main window

9 – The station list contains only one station as an example.

Click "Add Station" button on the right side to add a new station to your list and fill the new form with requested parameters:
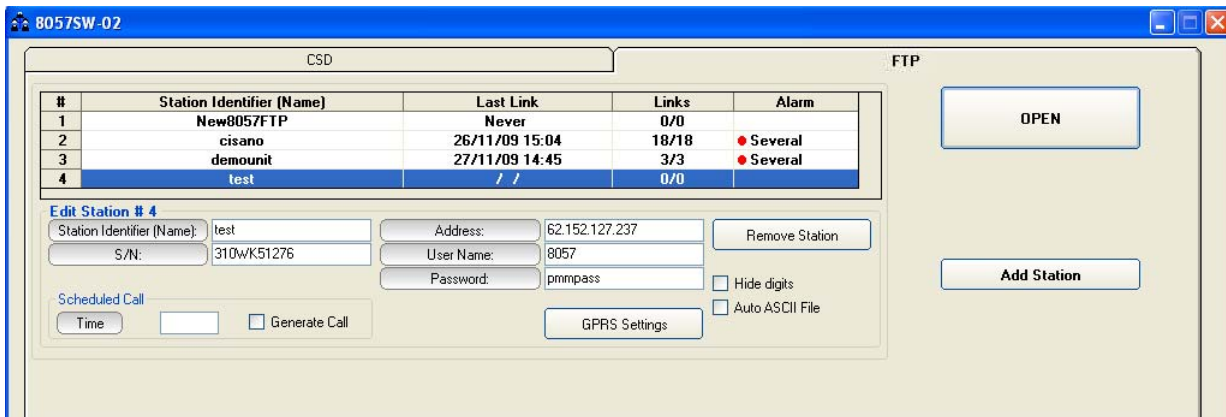
Station Identifier (Name):
"test" in this example, you can decide for any alphanumeric name.
The station list cannot contain two or more stations with the same name.
The folder containing all information and data of a specific station is created automatically by the control software. The folder name is the same assigned to the station in the station list.

S/N:
"310WK51276" in this example, is the serial number, different for any station.
By means of the control software a new directory with the same name will be created in the FTP server. It will be use for any data exchange between PC-server FTP and station-server FTP related to this specific station.

Address:
"62.152.127.237" in this example Narda STS ftp server IP address that can be used by user for preliminary tests. Be aware that data in this server are periodically removed.
User must set here the **static IP address** of his FTP server.

User Name and **Password:**
Respectively "8057" and "pmmpass" in this example to access the Narda STS ftp server for test.
User must set access parameters for his own ftp server.
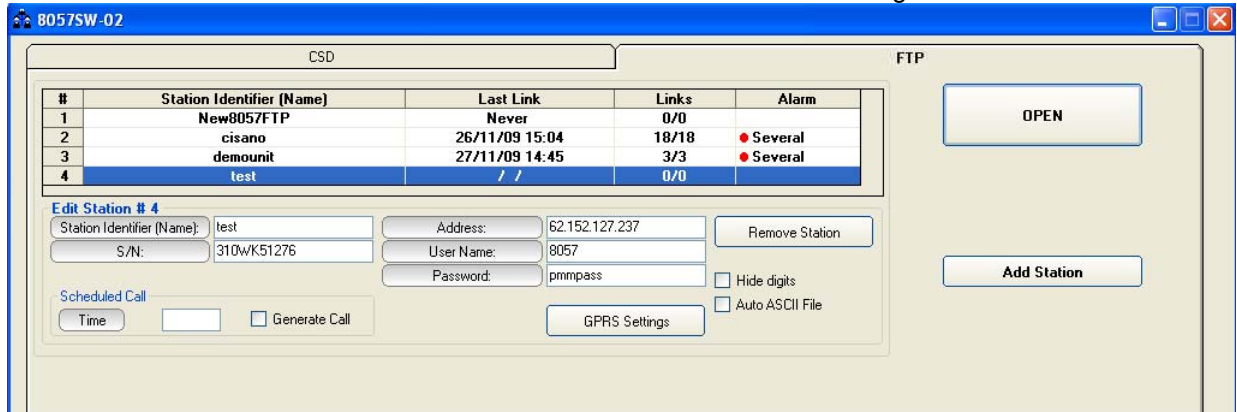
NOTE **The above information S/N, Address, User name and password are necessary for the controller PC to access the ftp server for downloading station measurement results and change setting to the remote station.**
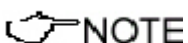
NOTE **After typing, press "Return" key to set each single parameter. Every time a single parameter is set in this form the user will be asked to type the *terminal* password.**

10 – GPRS parameters setting
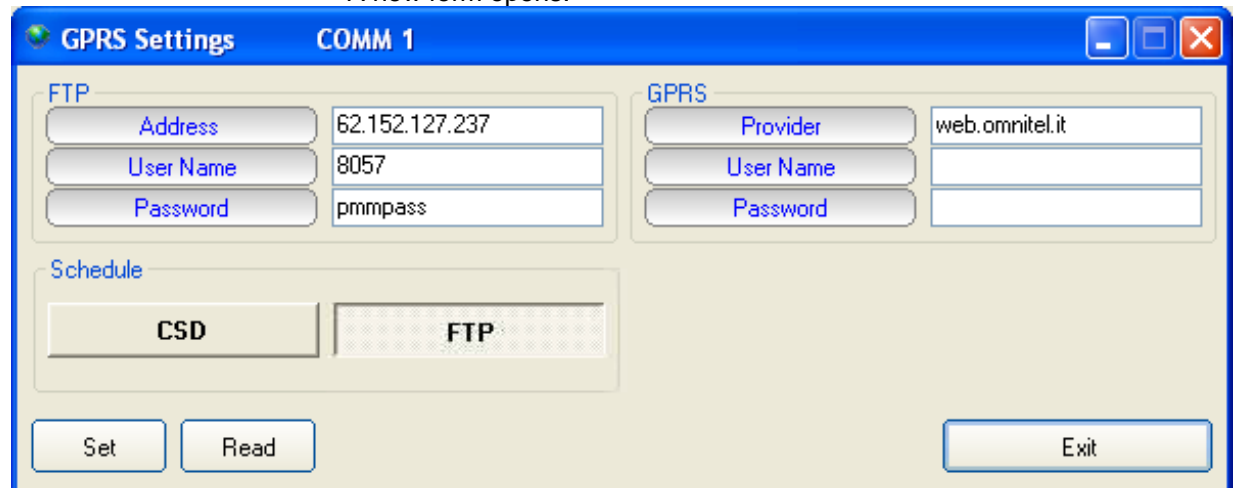
In the same form click the button GPRS Settings:

A new form opens:

Select the button FTP in the frame **Schedule** if not already selected.
Fill the same parameters, Address, UserName and Password for the FTP server. This parameters will be transferred to the station and will be used by the station itself to access the ftp server for downloading measurement results and upload any new configuration file.
In this example parameters for the Narda STS ftp server are set for preliminary test.
User should then set access parameters for his own ftp server.

Fill the **GPRS** section with parameters needed by the station to link the GPRS network.
In this example are set parameters for an Italian Vodafone SIM card (see the above paragraph **Remote station requirement** for details).

Click the button **Set** to store the above parameters in the station memory.

NOTE   **Use the Read button to display GPRS parameter of a station connected by the serial cable.**

Click **Exit** to close this form.

11 – Setting station RTC (Real Time Clock)

The station clock is very important as every field data stored by the station is related to time taking, as a reference, the station RTC.

Being connected through the RS232 cable the station clock will be set.
After on site installation, having no direct connection between controller PC and remote station, RTC will be set, if required, by means of a cell phone, sending SMS to the station.

Select the CSD section of the 8057SW-02 control software and select one station from the stations list (the first installation will show only one station set by the software as an example:
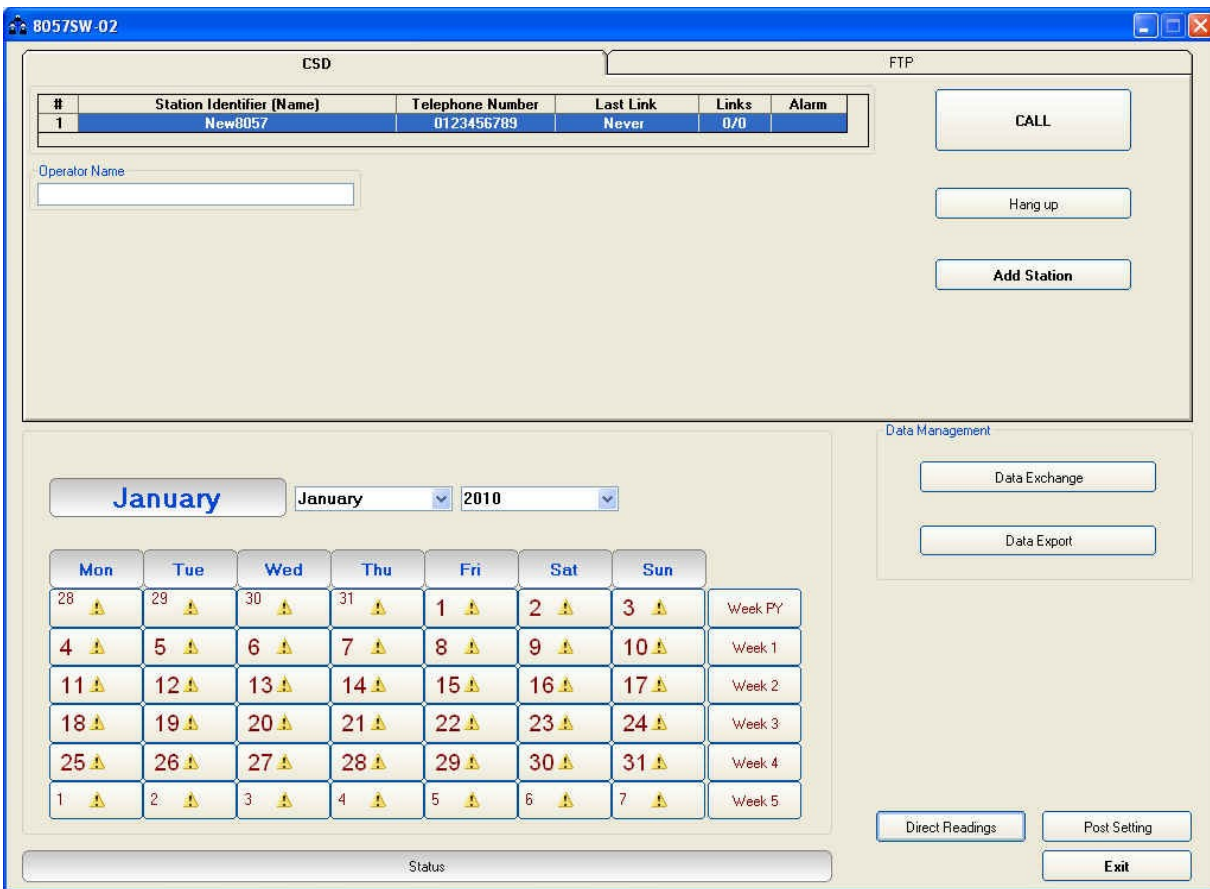
Select the station New8057 and hit the button Call, on the right, to access the station connected by the serial cable.

As the CSD mode normally operates through a modem, a message will inform that no modem has been detected on your COM port. It will ask whether you wish to access a station connected by the RS232 cable. Being this the case, you will answer "YES" to access your station through the serial cable:
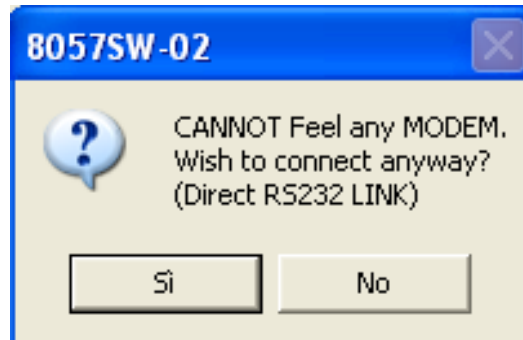
The station name is always stored within the station and it is expected that it matches the name, in your station list, that have been selected before calling.

The user station have not been added to the CSD station list as the GPRS communication mode has been decided, in advance, for this station.

Answer "NO" to the next messages as you neither wish to change the station name, nor add in the CSD station list the station you are using:
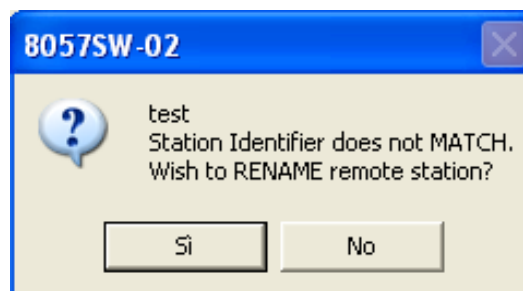
Answer "NO" as you do not wish to change the name stored within your station.
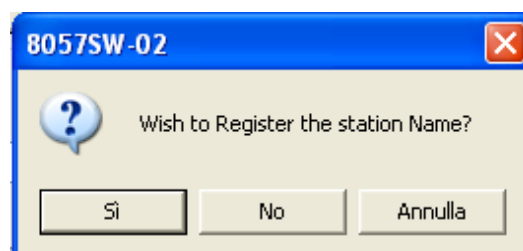
Answer "NO" as you do not need to add this station to the CSD station list, you are going to use it in GPRS mode. This station is in your GPRS station list.

The station Setting window will be shown:
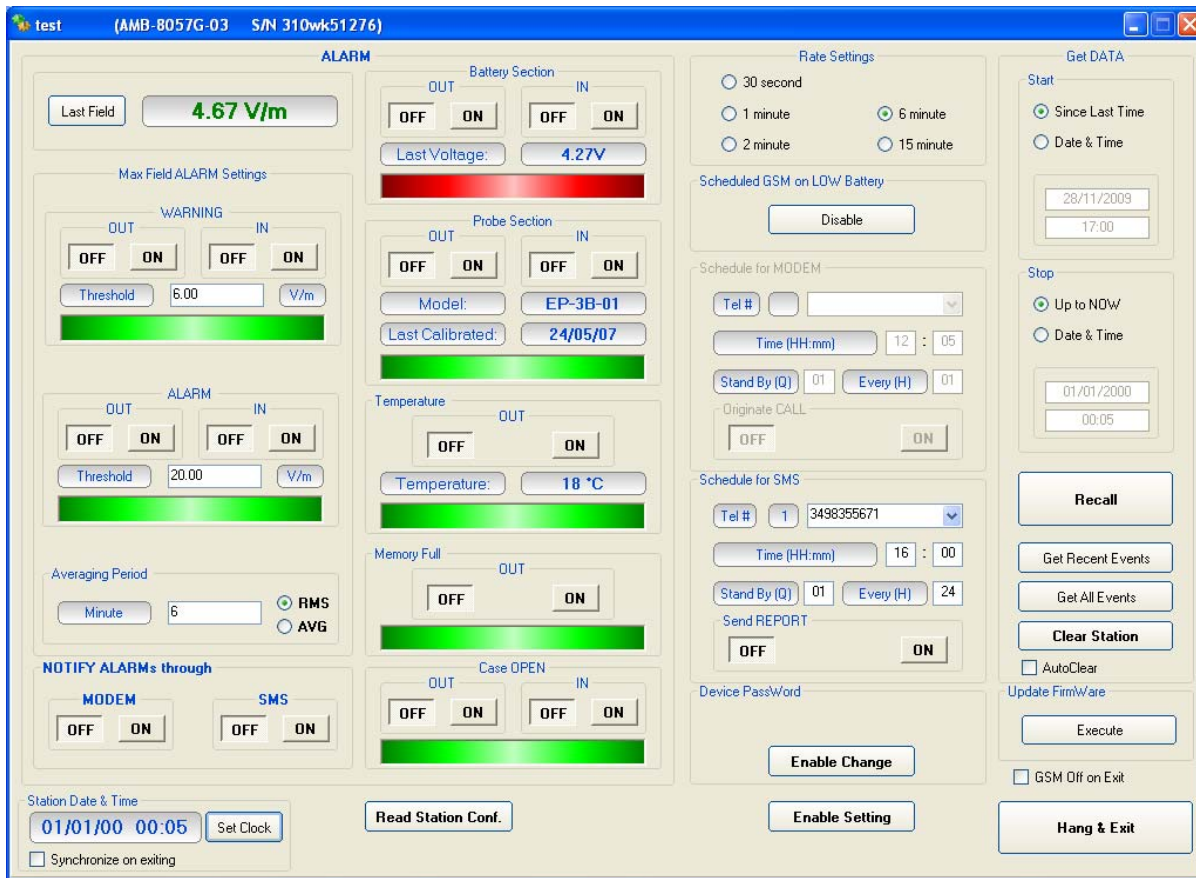
Fig. 3-3 Setting window

The above picture shows the "test" station. Please note that the station clock (RTC) has not been set as it shows the date, in the "Station Date & Time" frame on the left bottom side, 1st Jan 2000.
Also, the "Battery Section" frame on the top is showing a battery alarm, as the station batteries have not been charged as required.

Hit the button "Enable Setting", on the bottom right side, to modify the settings of your station.

You should remember the setting password that have been set the first time this software has been run. You will be asked to type it to be allowed to modify the station settings.
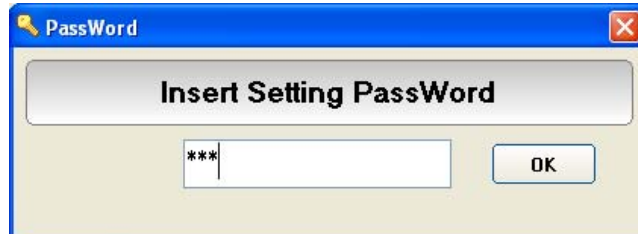
Type the setting password to be allowed to change RTC.

Hit the "Set Clock" button (left bottom side), the following message will be displayed:
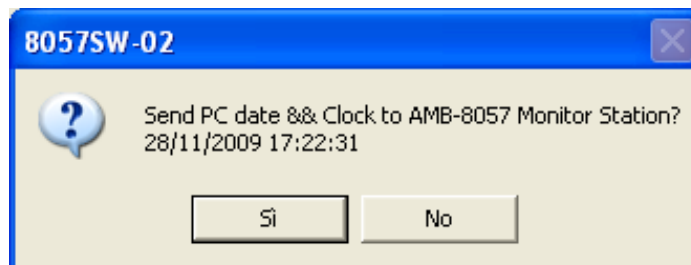
Click "Yes" to synchronize the station clock with your PC.

The station clock is now set.
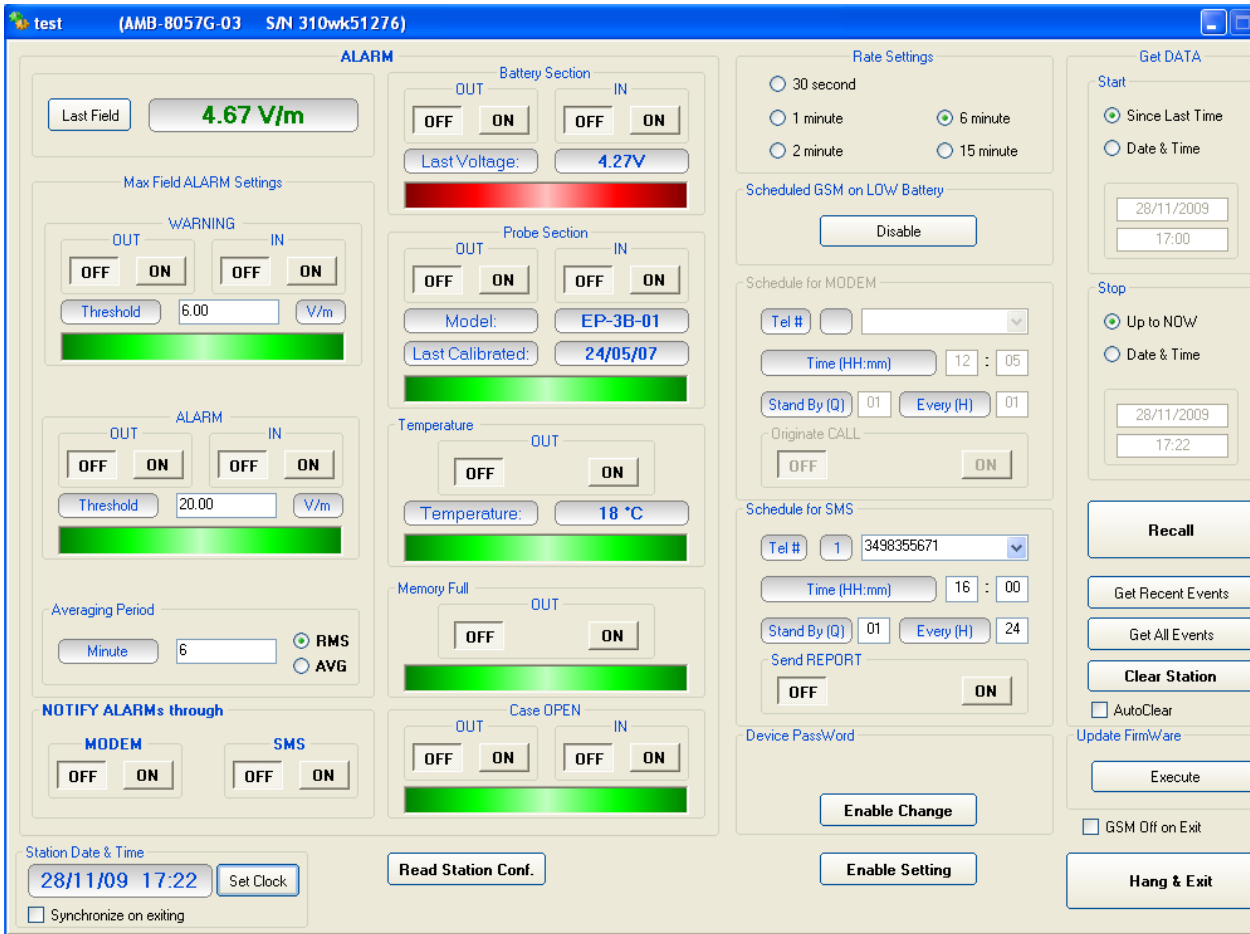
Hit the **Hang & Exit** button on the right bottom side of the setting window.

12 – Accessing the FTP server

Be sure a full internet connection is available for the controller PC. The firewall, if active, should not close ports 20 and 21 usually used for ftp communication.

From the 8057SW-02 main window, select the FTP label, your GPRS station list will be shown.
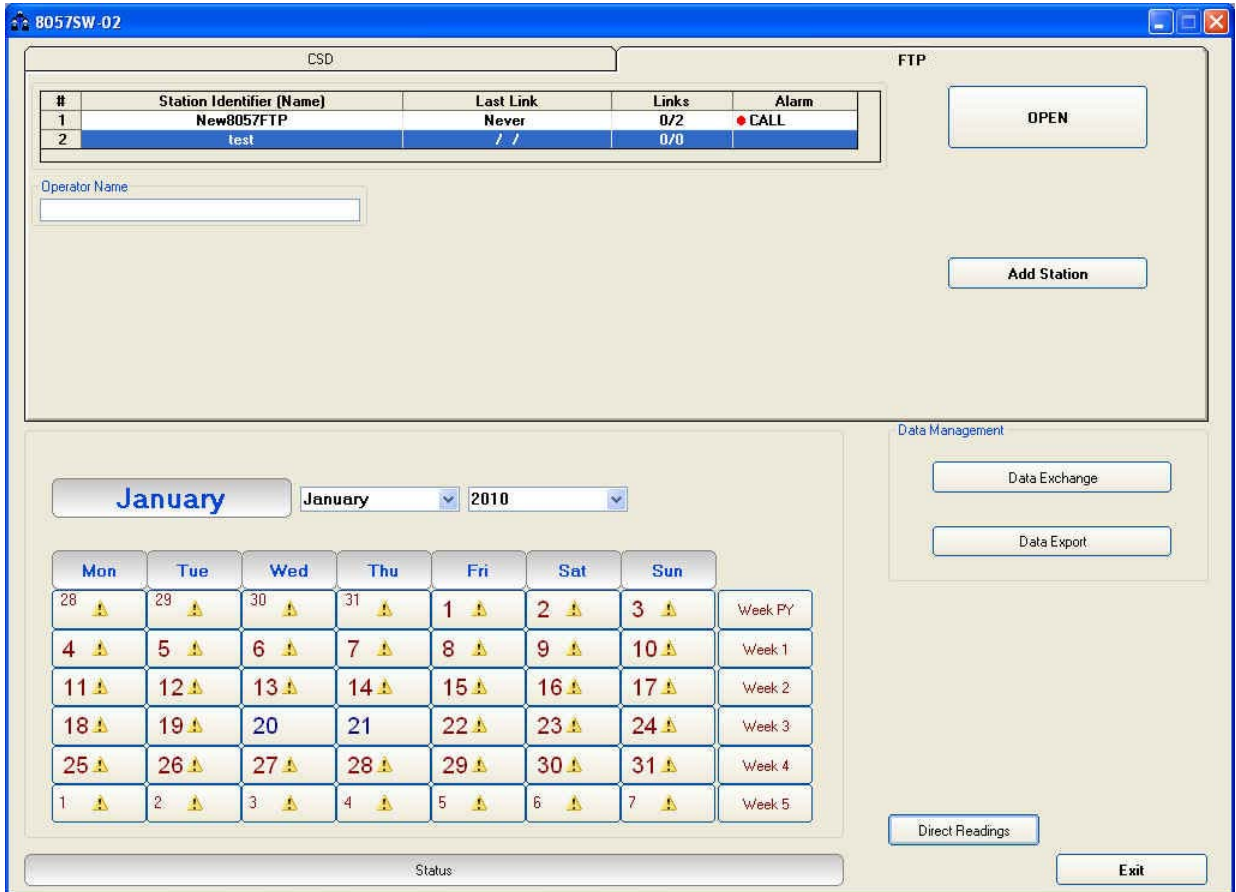
Fig. 3-4 8057SW-02 main window

Select your station, "test" in this example, and hit "Open" to access the ftp server.
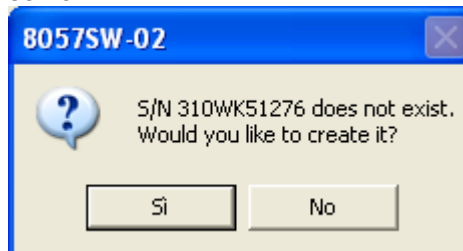
The station folder, into the ftp server, has not been created yet, answer "YES" to create it.
The name of this folder will be the same as the station serial number that you already set, it will be used for any data exchange between Controller PC – FTP server and Remote Station – FTP server.

Hit "Yes", the folder will be created.

NOTE

You can check it just accessing your ftp server using Windows Explorer.
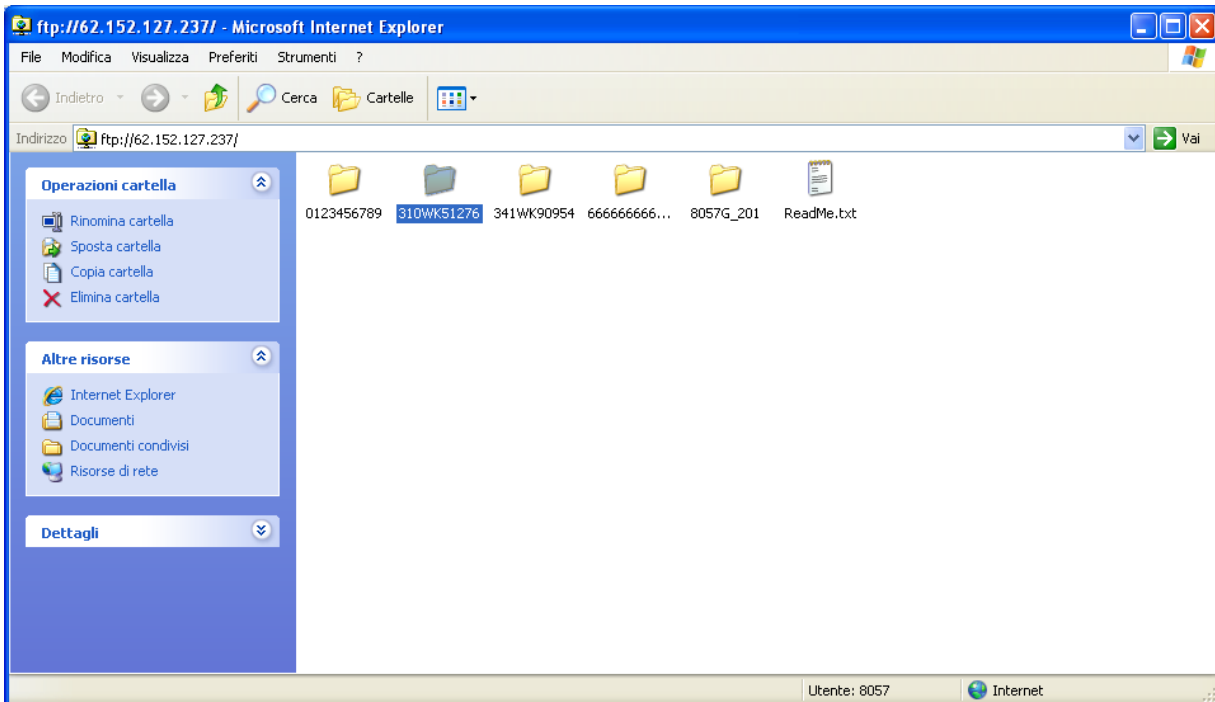
IP address, User Name and Password are to be set to access the ftp server through the Windows Explorer.

The only file you should find within the new folder is the "Creating.TXT" which contains information about creation date and time:
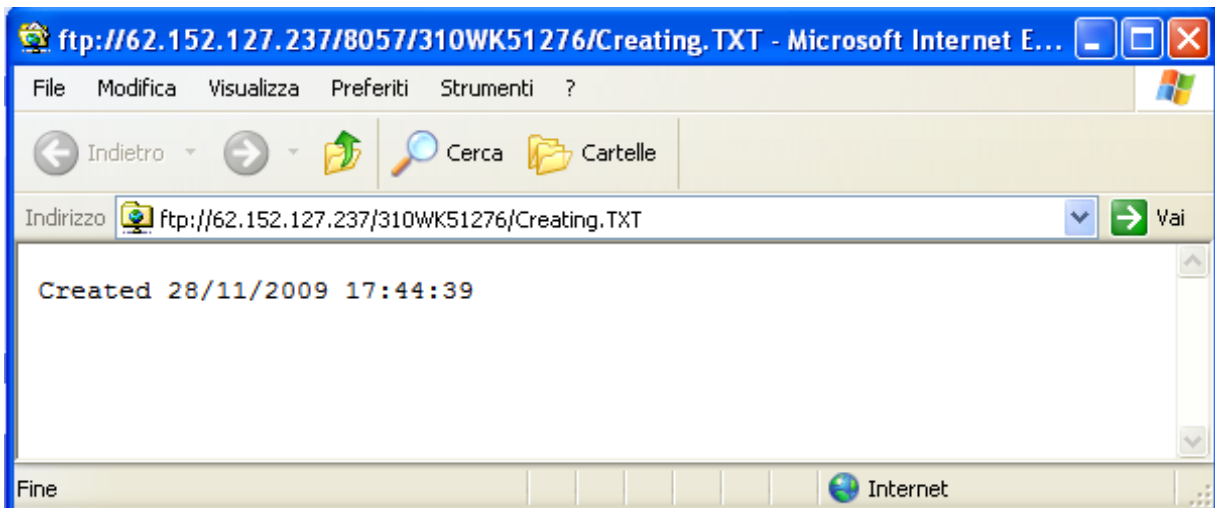
Next message shown by the software just ask you whether you wish to display a default setting which should be saved or modified by the user to save the first setting file ".cfg" which will be read and used by the station at its first connection to the server:
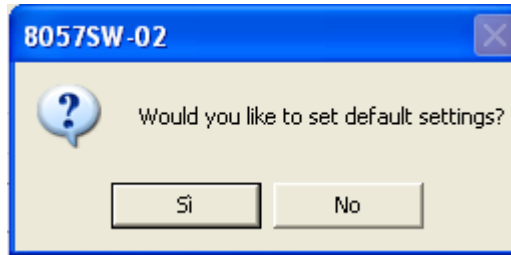
Answer "YES" to display default setting.

The first label "Data" will show which data will be downloaded by the station at the next connection. The default setting is "Since" date-time (your PC clock) – "Up to" now (when the station will access the server).
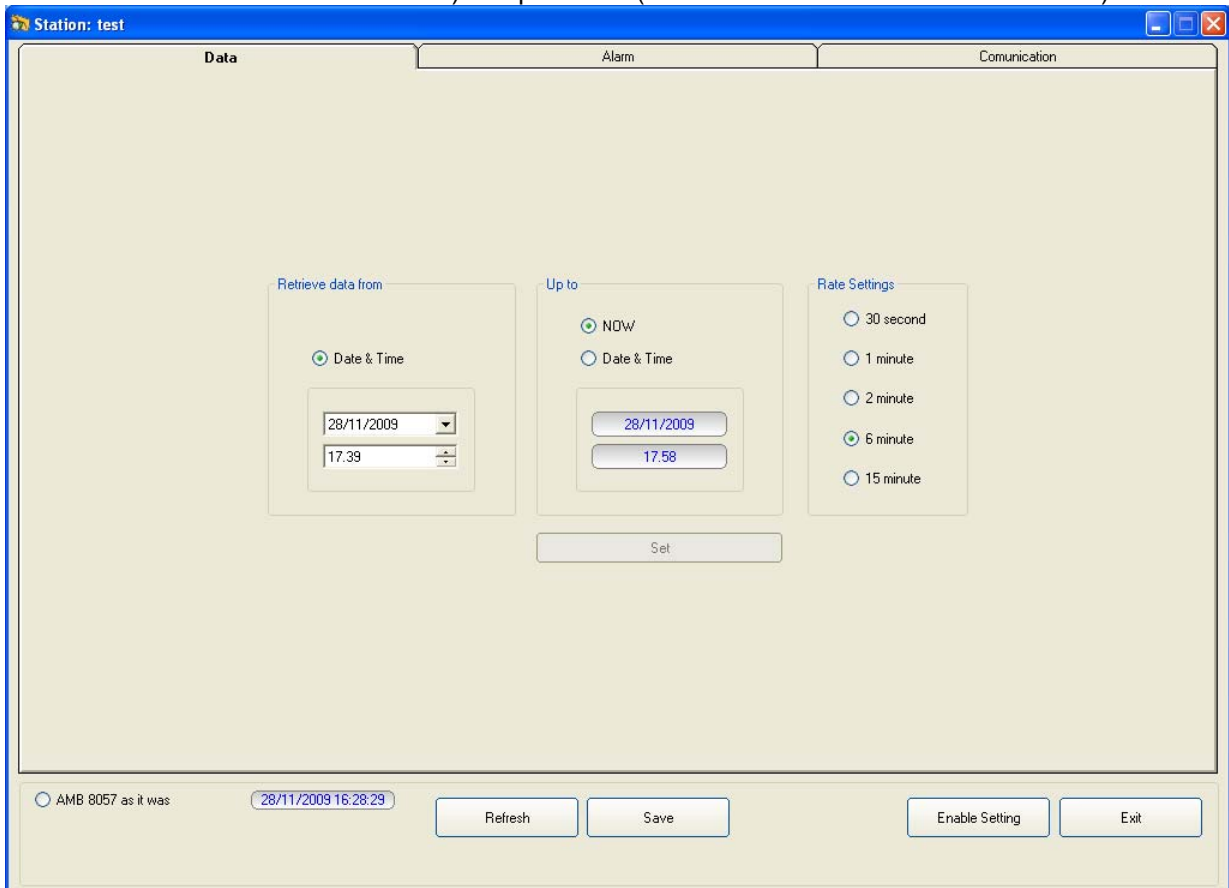
Hit "Enable setting" and type the Setting Password to be allowed to hit the "Set" button to create the first .FLD file that will be read by the station, at its first connection to the server, to know which data have to be downloaded.

The Rate Setting frame, on the right, allows you to set the rate setting. It is the **storing rate** of the station. In the above example the station will store the field measurement, in its internal memory, every 6 minutes.

NOTE **You can check that the 8057FLD file has been created by accessing the ftp server using Windows Explorer. Open the station folder (the name is its serial number).**
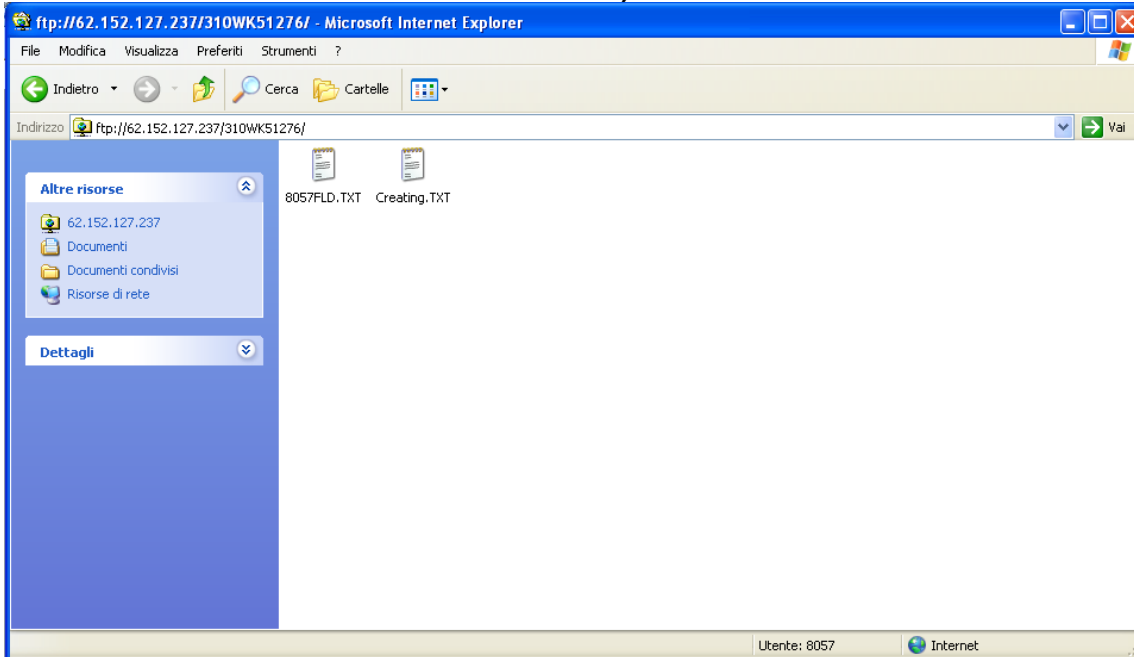
8057FLD.txt file contains information related to the next data the station should download when accessing the ftp server:
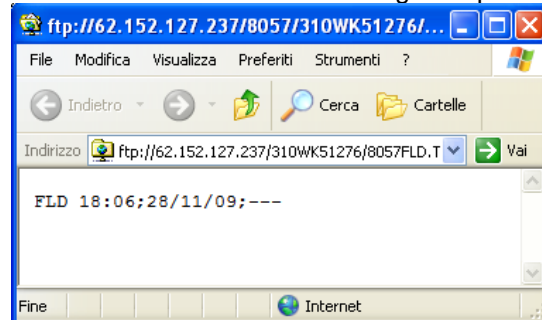
The above picture shows the content of 8057FLD file. After reading this file the station will download data starting from November 28th at 18:06.
Last information, "---"in this case, shows how many records have to be downloaded.
"---" means "up to now" so: all data that have been acquired since November 28th at 18:06.

A different information, let's say "80" instead of "---" means 80 records.
In which case the time period depends on the **storing rate** that have been set for this station.
If the storing rate was 6min, 80 records means 6 x 80 minutes = 480 minutes that means 8 hours:
Downloaded data will be: "Since" November 28th at 18:06 "Up to" November 29th at 02:06.

NOTE **It is usual to set any monitoring station to download data "Since last time" – "Up to now" so that everytime the station access the server it downloads all data that have been acquired since the last access to the ftp server.**

NOTE

In case, due to some special need, a specific time period should be downloaded by setting the parameters "Retrieve Data From – Date&Time / Up to – Date&Time", continuity of data to be downloaded later cannot be resolved automatically and a gap will be shown since last data already downloaded up to the time of next connection.
After downloading the requested specific time period the parameter "Up to" will be automatically set to "Now".
The parameter "Retrieve Data From – Date&Time" should be then set manually to recover data not downloaded automatically.
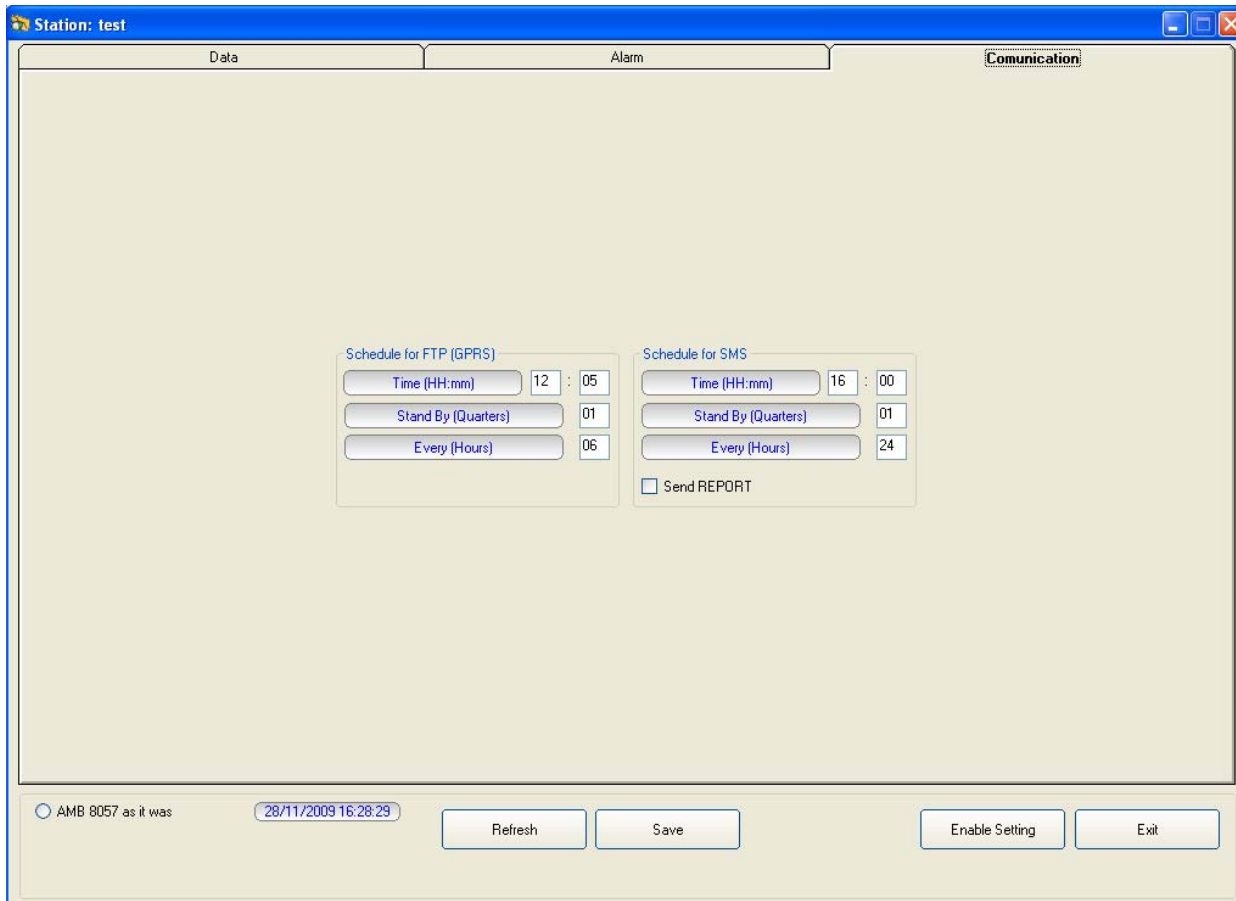
The second label, named **Alarm,** allows the user to set which alarm should be notified, if through FTP connection or SMS to the user mobile phone.
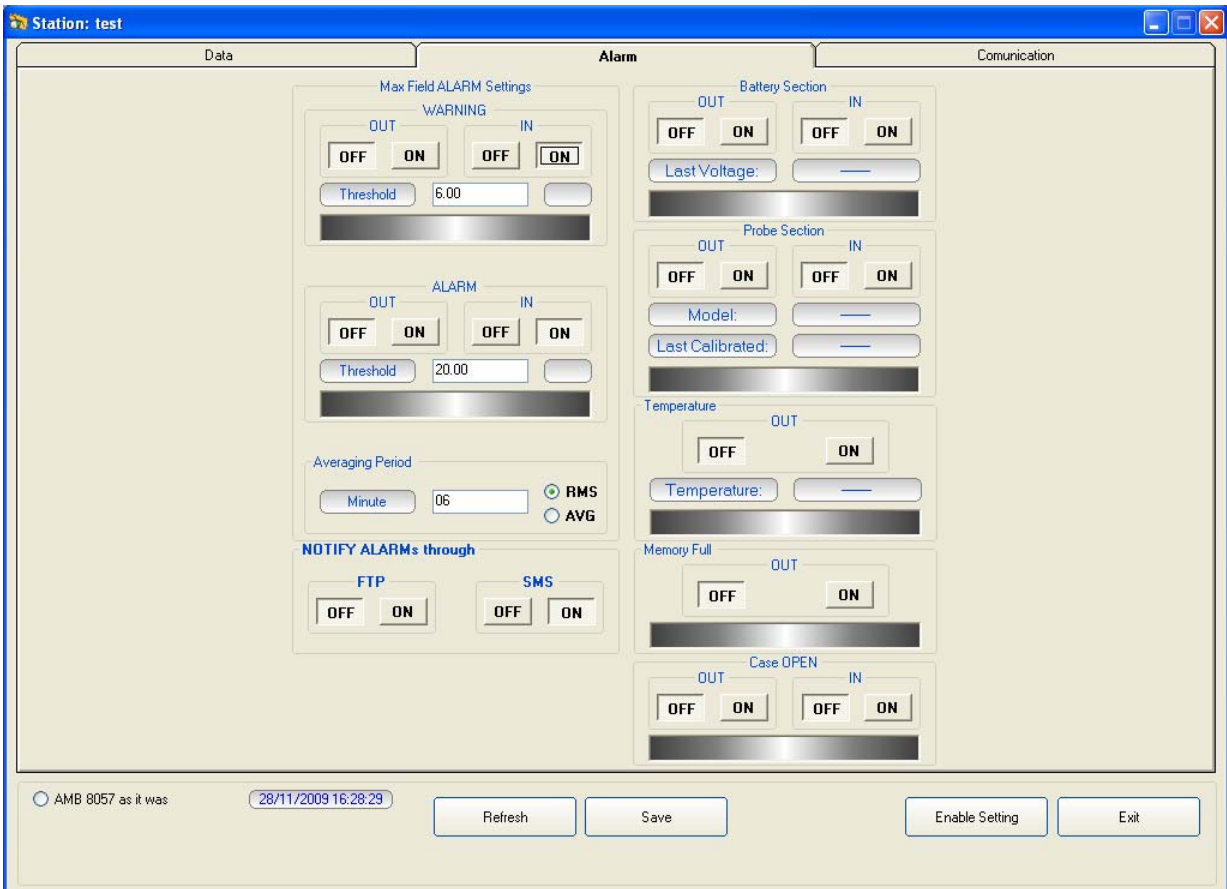
The same windows allows the user to set which average type should be performed on the acquired data, **AVG** or **RMS**, and the averaging period over which the average calculation is performed.
In the above example average type is RMS over 6 minutes time period.

Both **Warning** and **Alarm** thresholds are set to be notified by an **SMS** to the user's mobile phone (telephone number should be set through an SMS sent to the station or, during RS232 connection, through the CSD section).

Third label named **Communication** shows the station modem schedule.
As explained above, the station modem should be off for the major part of
the day. In this window you can decide, in two frames, when the station
modem has to switch ON, how much time should stay in stand by mode
and every how many hours this operation should repeat.

The above example shows that the station modem will switch ON for an
FTP connection to the server at 12:05, it will stay ON for 15 minutes (1
quarter). Every 6 hours the loop will be repeated so that the modem will
switch ON, and the station will download its data at 12:05, 18:05, 00:05,
06:05 every day.
So frequent connections are set for test purpose only, if the parameter
Every (Hours) was set to 01 the station downloaded its data every hour.

NOTE
**To avoid affecting the energy balance between solar panel, back up
battery and station consumption we recommend to set the modem to
switch on only once a day, better during day time, for 1 quarter (15
minutes). This configuration assures station power autonomy even
during long bad wheather periods when the solar radiation could be
not enough to supply the station modem for longer time.**
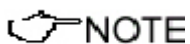
The second frame, **Schedule for SMS,** allows the user to set in the same way a second time period for the modem to be ON. If the command **Send Report** is checked, an SMS informing about maximum field strength measured and lowest battery voltage of the day is sent to the user mobile phone (telephone number to be set by SMS to the station or serial connection during preliminary installation and test).

After all three labels, Data, Alarm and Communication are set as desired, hit the **Save** button, on the bottom side to store your settings. A **.CFG** file will be created in the station folder within the ftp server. It will be read by the station, when accessing the server, to set itself as requested.

Hit **Exit** to come back to the 8057SW-02 main window.

☞ NOTE

The existance of 8057.CFG file can be checked by accessing the station folder, in the ftp server, through the Windows Explorer:
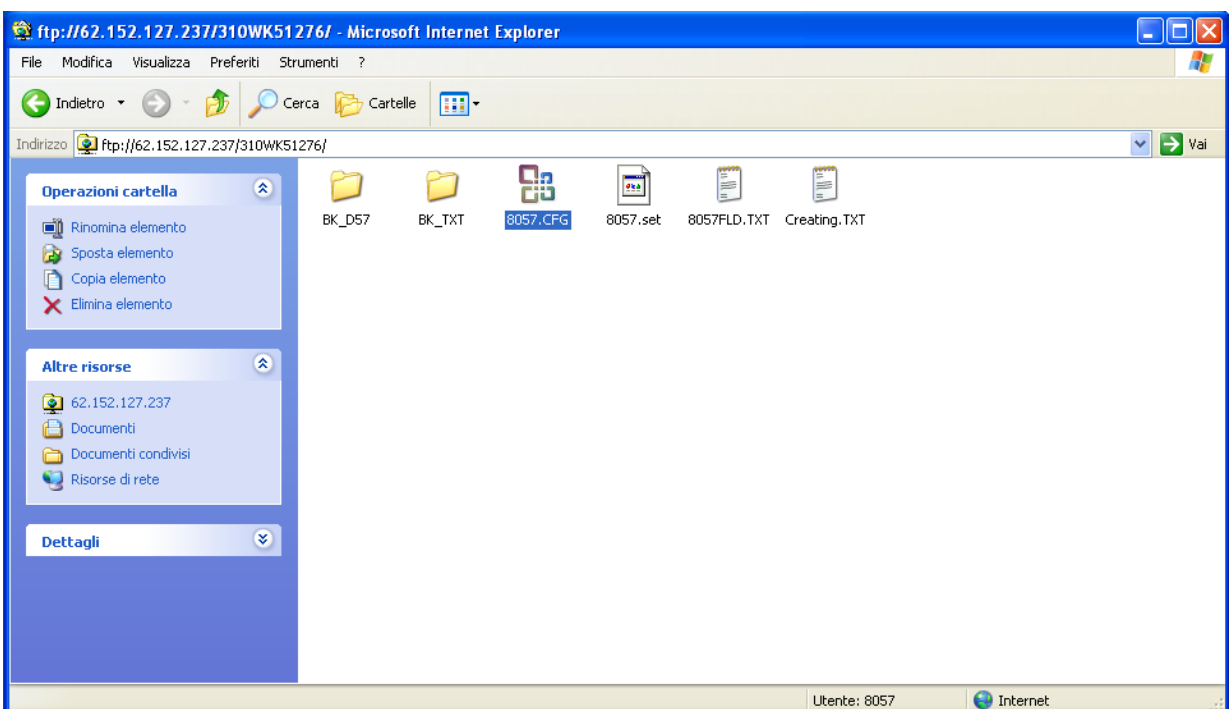

Other files and folders may be present in case the station already accessed the server.

**13 - Displaying measurement results**

As soon as the station access the ftp server it downloads measurement results.

When desired, from the 8057SW-02 main window, FTP side, select your station and hit **Open** to access the station folder in the FTP server.

New data, if present will be downloaded to the controller PC. As soon as the bottom bar shows no operation hit **Exit** to come back to the main window. If some data have been downloaded, the calendar will show the related day number in blue showing that some data is available.
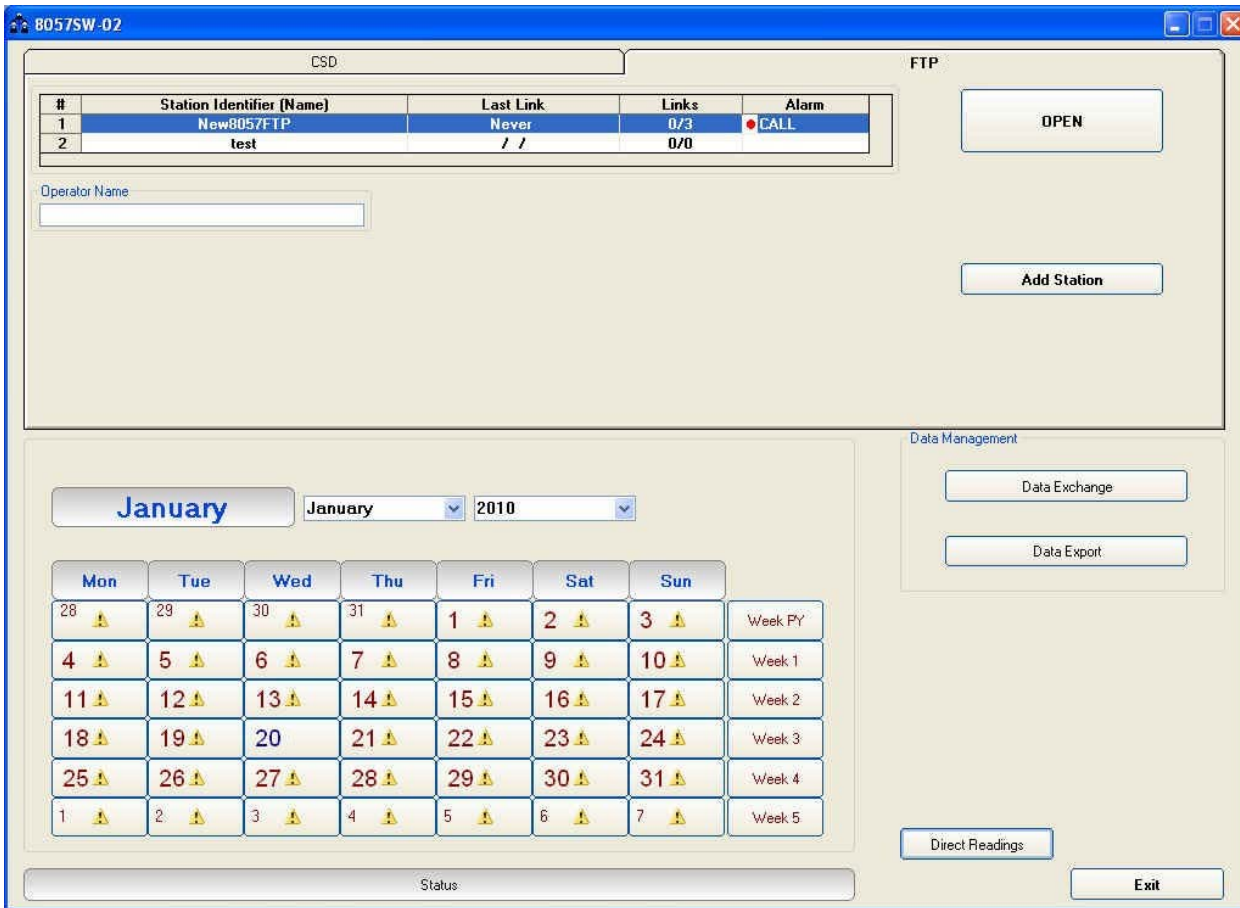
Hit the blue day in the calendar to open a graph showing downloaded data.
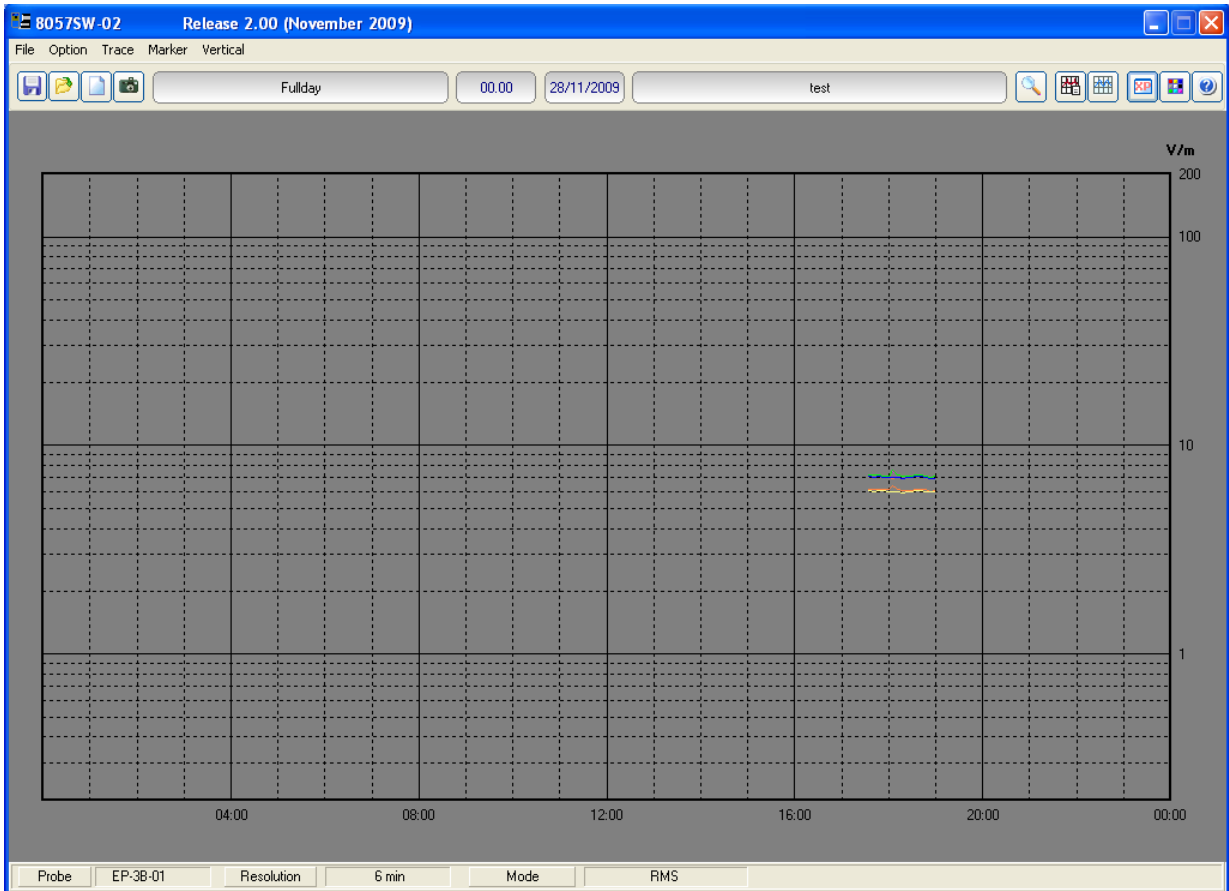
Please refer to the AMB-8057 user's manual for details regarding data presentation, saving and related commands.

NOTE

It is possible to check whether some new data is present in the station folder by accessing it using Windows Explorer.

Two different kind of data file are downloaded at each connection: files with .txt extensions contains all Events related to the station, file with extension .D57 contains measurement result in binary format.
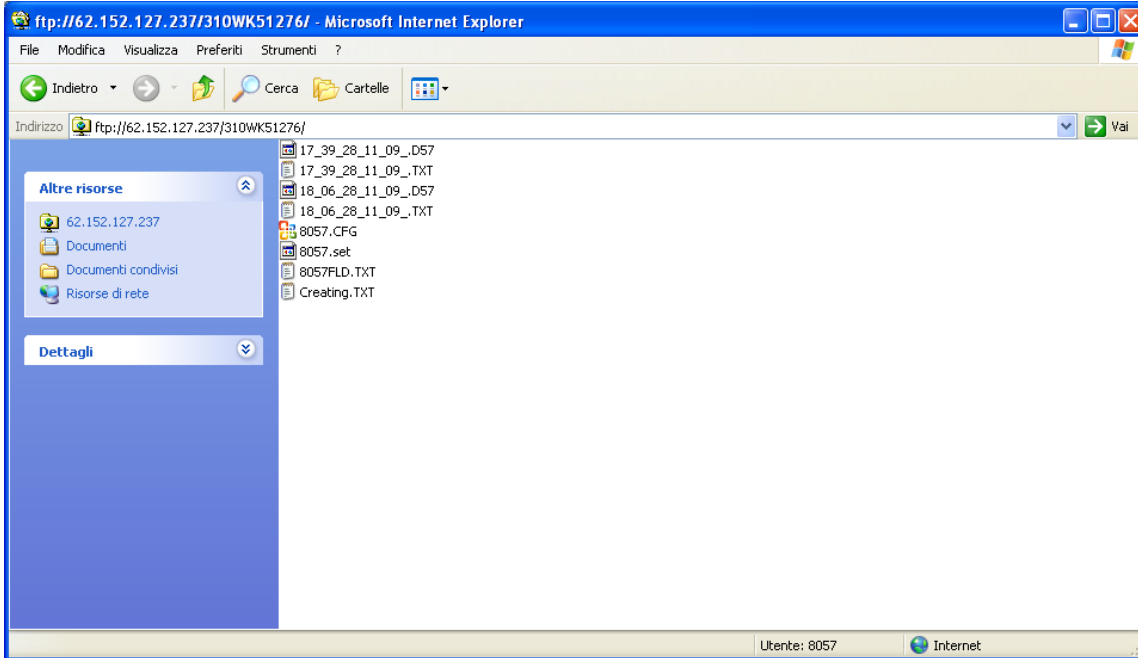
All data already downloaded to the controller PC are transferred to back-up folders, one for the .txt files, one for the .D57 ones.
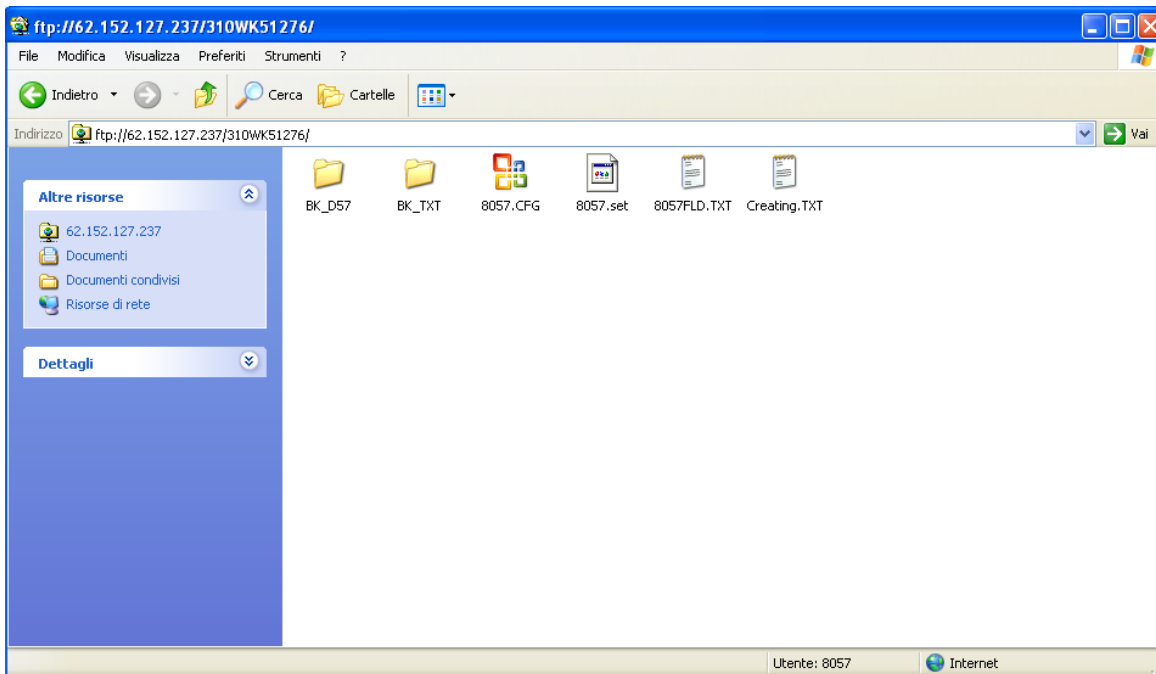
14 - Setting RTC of a remote station

As explained above there is never a direct connection between remote station and controller PC except when an RS232 connection, using the serial cable, is established, generally during preliminary operation before installing the remote monitor on site.

The clock setting of a remote station can be performed by means of SMS sent by the user.

As the SMS delivery time is not known, the SMS command sent by the user generate a message, sent by the station, to itself. If, as usual, the station receives its message within 30 seconds it takes the time information coming within the message as the time reference to be used to set its clock.
A confirmation message is then sent to the user mobile phone.

4 – New commands for GPRS/FTP communication

Some new commands are now available for stations operating in GPRS/FTP communication mode.
They can be sent to the station by RS232 or messages (SMS) to perform specific tasks like, for example, the SCGN command to ask the station to access the server immediately.

The following is the list of new commands, please refer to the AMB-8057 user's manual for details about the command syntax and related information.

GPRS – FTP Settings.

In order to establish a GPRS connection and a FTP transfer, a number of data are required which are divided into 2 main fields as follows. Each fields cannot be more than 31 characters.
These commands cannot be executed via FTP/GPRS (because they would need to be already correctly set).

Table 4-1 Connection Data		
Field	**Description**	**Setting command** Command to be issued by either SMS or RS232
GPR**0** **APN** Access Point Name	The provider name of the GPRS bearer.	#F7SGPR**0** \<apn>* where \<apn> is Access Point Name Example: #F7SGPR**0** web.omnitel.it*
GPR**1** **GUN** User Name for Gprs access	The User Name required for logging-in. Sometimes this field might not be required and thus can be left empty.	#F7SGPR**1** \<gun>* where \<gun> is the User Name of GPRS access. Example: #F7SGPR**1** MyGPRS*
GPR**2** **GPSW** Password for Gprs access	The Password required for logging-in. Sometimes this field might not be required and thus can be left empty.	#F7SGPR**2** \<gpsw>* where \<gpsw> is the Password of GPRS access. Example: #F7SGPR**2** 1234*

Table 4-2 FTP Connection Data		
Field	**Description**	**Setting command** Command to be issued by either SMS or RS232
GPR**3** **FUN** User Name for FTP access	The User Name required for accessing to the FTP server. This word is usually issued from the FTP administrator and is nothing to do with the bearer.	#F7SGPR**3** <fun>* where <fun> is the User Name for FTP. Example: #F7SGPR**3** MyFTP*
GPR**4** **FPSW** Password for FTP access	The Password required for accessing to the FTP server. This word is usually issued from the FTP administrator and is nothing to do with the bearer.	#F7SGPR**4** <fpsw>* where < fpsw > is the Password for FTP. Example: #F7SGPR**4** abcd*
GPR**5** **FIP** FTP IP Address	This parameter is the server address for FTP (IP Address of FTP). Normally this is the static IP Address that routes the file transferring process to the wanted server	#F7SGPR**5** <fip>* where < fip > is the IP Address for FTP. Example: #F7SGPR**5** 194.183.2.17*

Table 4-3 MISC		
Field	**Description**	**Setting command** Command to be issued by either SMS or RS232
CGN Connect GPRS Now	This command starts a GPRS connection immediately. All the procedures are then the same as it would for a scheduled connection. a	#F7SCGN*
CGNL Connect GPRS Now (Last Events)	This command starts a GPRS connection immediately as for CGN but it forces to have a EVENT.TXT file containing the last 20 events instead of the most recent, and not yet loaded, ones .	#F7SCGNL*
CGNA Connect GPRS Now (All Events)	This command starts a GPRS connection immediately as for CGN but it forces to have a EVENT.TXT file containing all the events available instead of the most , and not yet loaded, ones .	#F7SCGNA*
NETE Enable GPRS protocol	This command enables the AMB8057 to connect via GPRS instead of point-to-point GSM-MODEM connection. The reply is the same as for command ?TSM	#F7SNETE*
NETD Disable GPRS protocol	This command disables the AMB8057 GPRS and enables point-to-point GSM-MODEM connection. The reply is the same as for command ?TSM	#F7SNETD*
STS id Set Timedate SMS	This command sets the internal real clock time by using the SMS provider's information. To use it **id** (the AMB8057 telephone number) must be sent. This command works assumes that the SMS provider gives the correct Clock/Date and its feedback is within 30 seconds. The reply is sent only if the real time clock has been updated and is the same as for the command "?CLK"	#F7SSTS nnnnnnnn* where nnnnnnnn is the telephone number of AMB8057

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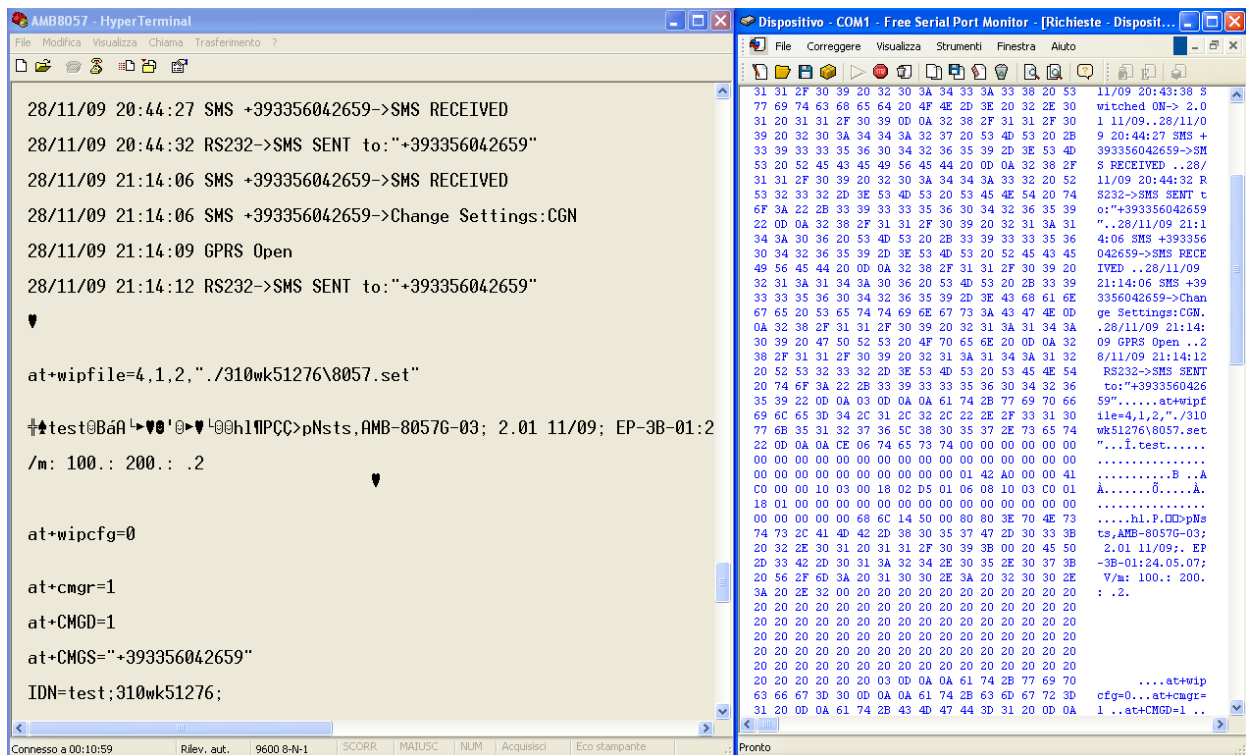
5 – Additional tests and hints

Windows HyperTerminal and a serial port monitor could be useful tools to check the station operation when connected to the controller PC through the RS232 cable.
You can check attempts of the station to connect to the GPRS network and its operation.

Hyper Terminal and Serial Port Monitor show activity of the station being it connected to the PC RS232 port.

The example below shows that the station received an SMS from the user's mobile phone and, executes the received CGN command by connecting immediately to the ftp server..

🔧 NOTE

Please be aware that GPRS service, as well as, generally, all mobile services, may be sometimes not available depending on the station installation site and on the GSM service condition.
Everytime a station is not able, for any reason, to access the ftp server, no measurement result will be lost, as soon as the station will be able to establish a connection to the server it will download all data that have not been downloaded till then.

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6 – AMB-8057 Firmware updates

Whenever a new software / firmware version is released it is available in our Web site for free downloading.
The new software includes the remote station firmware and commands to update it.

The remote station firmware can be updated by connecting the station to the controller PC by the RS232 cable.
Updating procedure is described in the AMB-8057 user's manual.

Unlike the CSD stations the GPRS station firmware cannot be updated remotely.

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7 – Transferred data volume and occupied space

The amount of data which any remote station downloads every day mainly depends on the station probe (the record size of a quad-band probe is about twice as much as a single or tri-band probe record), on the Rate setting and, slightly, on the number of daily downloads.
Also, the number of events (alarms etc.) slightly affects the amount of transmitted data.

Assuming that a quad-band EP-4B-01 probe was used in a station set to access the FTP server once a day, a rough indication of the amount of downloaded data is the following:

Rate 30 s ➜ 100kB
Rate 1 min ➜ 50kB
Rate 2 min ➜ 25kB
Rate 6 min ➜ 12kB
Rate 15 min ➜ 6kB

In this condition the amount of disk space occupied daily is not so different from the amount of downloaded data.

Differently, if the station was set to access the ftp server every hour (24 times per day), due to the minimum disk space needed for each file (hard disk cluster), the daily amount, for a 4kB cluster disk, would be about 200kB regardless of Rate setting.

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