FlashRad software

Version 2.0 - Microsoft Windows ®

mvg
Microwave Vision Group

Summary

1 START-UP

The FlashRad system includes one or more monitoring stations and a controller PC with FlashRad software installed. The stations are connected to the PC by an Ethernet network in "Connected" mode or by a FTP server in "Autonomous" mode. The management software is installed on the Monitoring PC. An optional external box, called "external alarm box", situated close to the PC generates additional acoustic and visual alarms.

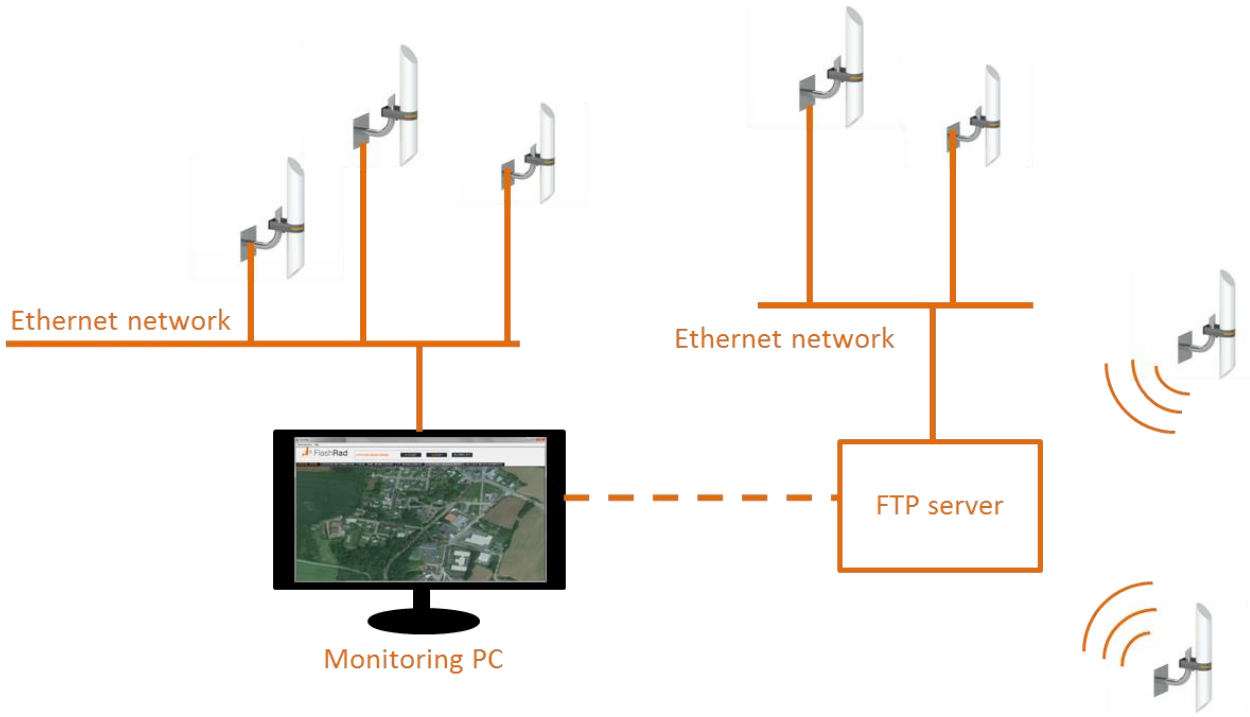

Figure 1. FlashRad network configuration

The user manual describes the FlashRad V2.0 functionalities. The software is Microsoft Windows 10, Windows 8 and Windows 7 compliant.

1.1 Minimum system configuration

FlashRad V2.0 software must be installed on a PC with the following specifications:

Specifications	Minimum	Recommended
OS	Windows 7, 8, 10 32-bits (x86)	Windows 7, 8, 10 32-bits (x86) or 64-bits (x64)
Processor	Processor @ 2.0 GHz	
Disk size	500 Mo	Solid-State Disk (SSD) 1 Go free
Memory (RAM)	1,024 Mo	>1,024 Mo
Ports	1 free USB 2.00 port	1 free USB 2.00 port
Ethernet	10 MB Ethernet port	10/100 MB Ethernet port
Screen	1024 x 768	1024 x 768 or more.
Other (optional)	CD-ROM	CD-ROM
Software (optional)	PDF reader	PDF reader

1.2 FlashRad software installation

To install FlashRad software:

1. insert the CD or connect the USB key to the PC.
2. double-click on the FlashRad setup icon.
3. follow the installer.

2 USING FLASHRAD SOFTWARE

2.1 To launch the Software

Warning: if Windows 7, 8 or 10 OS is used, the software should be launched in Administrator mode (Right click on the executable and select “Run as administrator”).

2.2 FlashRad administrator and user mode

The software has three levels of privilege: “super administrator”, “administrator” and “user”. The “super administrator” and “administrator” modes require a password (see section Administration menu) and whereas user mode is the common mode. Upon first use of the software, the user rights must be configured. This stage consists in defining the rights of the user in terms of station management, alarm management, etc….

The password to change mode is delivered with the software.

- Super administrator’s level allows all actions available with the software, including the maintenance mode.
- Administrator’s level allows all actions available with the software, but not the maintenance mode.
- User’s level actions are dependent of the rights given to the user by the administrator.

2.3 User rights configuration

Note: the administrator can modify the user rights configuration when desired.

The first time the software is launched, the panel below appears.

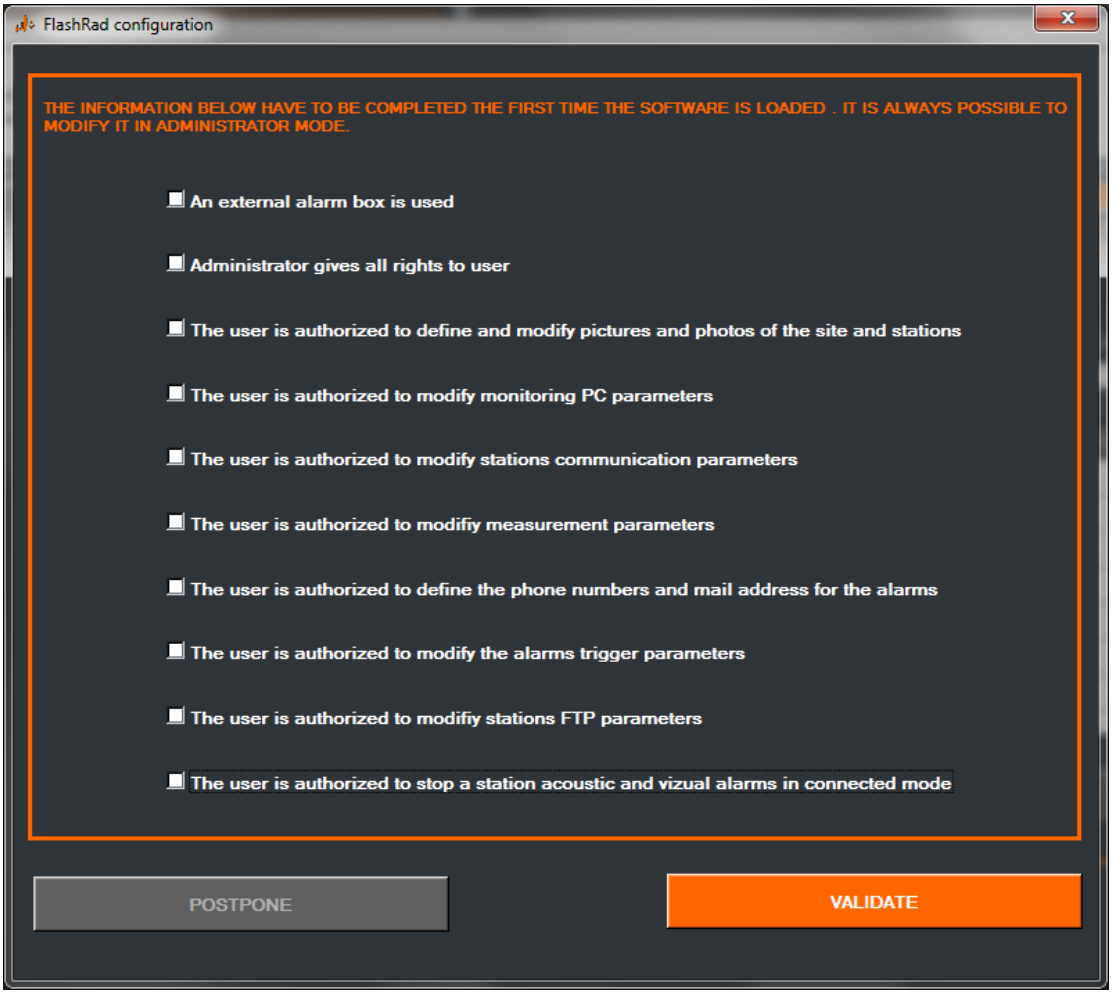

Figure 2. User rights definition

This panel allows the optional use of an external alarm box. If the box **"An external alarm box is used"** is checked, the alarm box must be connected to the PC, otherwise, errors will occur.

The check box **"Administrator gives all rights to user"** gives all administrator's rights to the users. If this box is checked, the rights configuration ends.

The check box **"The user is authorized to define and modify pictures and photos of the site and stations"** allows the user to choice:

- the picture representing the site,
- the station placement on the picture,
- the station photograph selection,

The check box **"The user is authorized to define and modify monitoring PC parameters"** allows the user to modify:

- the saving directory for configuration files, daily report files and measurements files,
- decide whether the external alarm box is used or not, if it is connected,
- decide the time slot when the visual alarms of the stations are active (only in connected mode),
- decide the time slot when the acoustic alarms of the stations are active (only in connected mode),

- define the actions to be taken if a stop alarms occurs from the man-machine interface,
- define the actions to be taken if the “Reset” button of the external alarm box is pushed,
- choose the parameters used to connect to the FTP server to exchange files with stations in “Autonomous” mode,
- choose the parameters used to connect to a database used to visualize measurements on a web interface (this functionality is a software option of FlashRad and not always delivered).

The check box **“The user is authorized to modify station communication parameters”** allows the user to modify:

- the global operation mode for each station (Autonomous or Connected),
- the allowed communication mode usable for each station (available choices are dependent of hardware station capabilities),
- the stations IPV4 parameters.

The check box “**The user is authorized to modify measurement parameters”** allows the user to:

- decide and modify measurement timing,
- choice to record all measurement or not.

The check box **“The user is authorized to modify the phone numbers and mail address for the alarm”** allows the user to modify the mail address and phone numbers for alarm sending.

Note: SMS alarms can be used only by stations equipped with a modem.

The check box **“The user is authorized to modify the alarms trigger parameters”** allows the user to modify:

- the alarm threshold of the stations,
- the number of above-threshold measurements before an alarm is issued,
- instantaneous measurement or 6 min mean to trig an alarm,
- the acoustic and visual alarms time slot authorization of each connected station,
- the alarm type to trig for each default case by station.

The check box **“The user is authorized to modify station FTP parameters”** allows the user to modify:

- FTP connection parameters for each station,
- FTP connection rate for each station.

The check box **“The user is authorized to stop acoustic and visual alarms in connected mode”** allows the user to:

- stop the global monitoring,
- stop the visual alarm of one or more stations,
- stop the acoustic alarm of one or more stations.

The management of these actions is adjusted via several tabs. The commands or tabs corresponding to non-authorized user actions will be grayed out in user mode.
Click “VALIDATE” to launch the software main panel.

2.4 Main panel

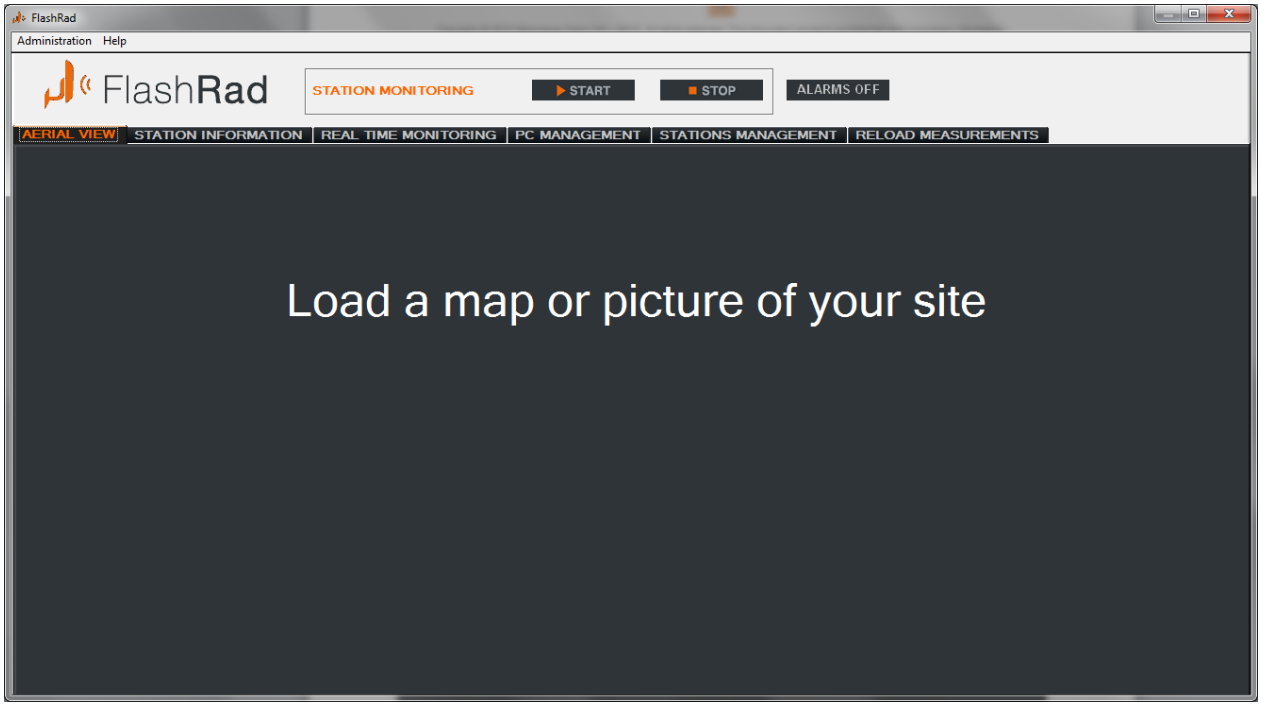

Figure 3. Main panel

First, the main panel appears as above. The main panel is composed of several tabs; each tab allows you to visualize the station in a different way.

2.5 "AERIAL VIEW" tab

This (optional use) TAB allows a geographical view of the stations. Just load a picture corresponding to the place where the stations are located. This picture can be an aerial photo, a site map etc…. To avoid distortion, the height/width ratio of the picture must be about 2/1 and more than 800/400 pixel resolution. If the picture is not correct, it will remain grayed out. The picture can be changed as soon as required.

2.5.1 Site map

To load the picture, in the menu "Administration", select "Aerial view"

2.5.2 To place stations on the site map

To place a station on the site map, just perform a right click on the picture exactly where you need to place the station. The panel below appears:

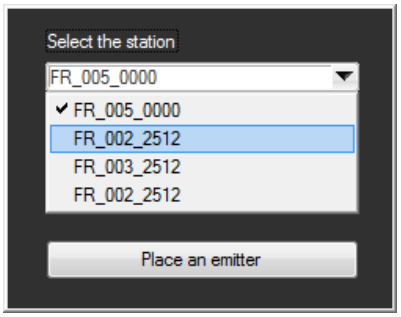

Figure 4. Station selection panel

The combo box allows stations known to the system to be selected. Select the required station and click on "Validate". A blue LED appears on the site map (see below). Note that the LED label is the name of the station.

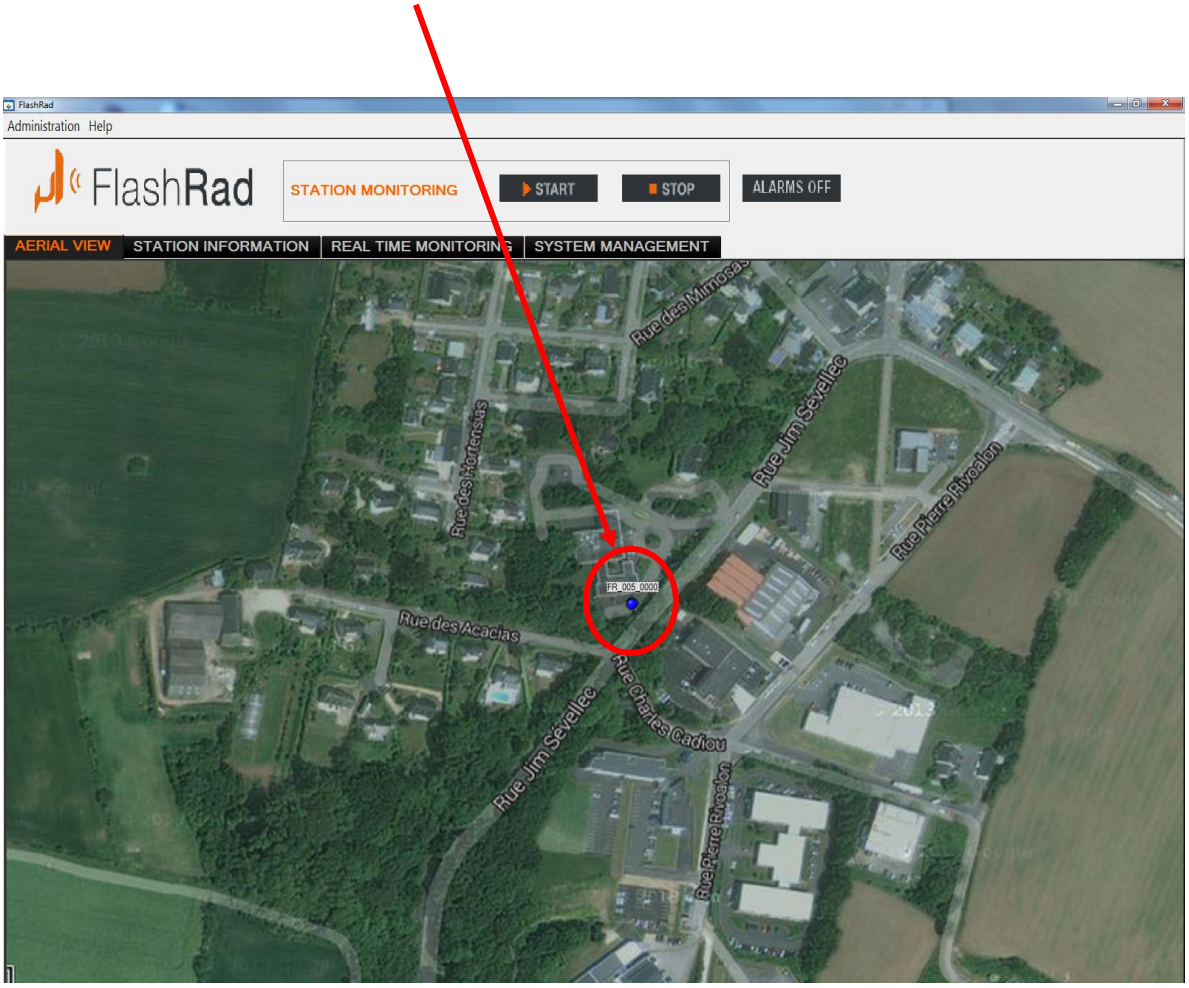

Figure 5. Aerial view of the station location

Every station is depicted by a LED which is color coded according to state:

- blue: the station is known but there is no exchange between the PC and the station (eg, if the monitoring is not running),
- green: the station is running and the values are below the alarm threshold,
- red: the station is running and the values are above the alarm threshold.

2.5.3 **Station information panel**

A specific information panel gives information on each station. A click on an LED, on the aerial view, displays the panel below.

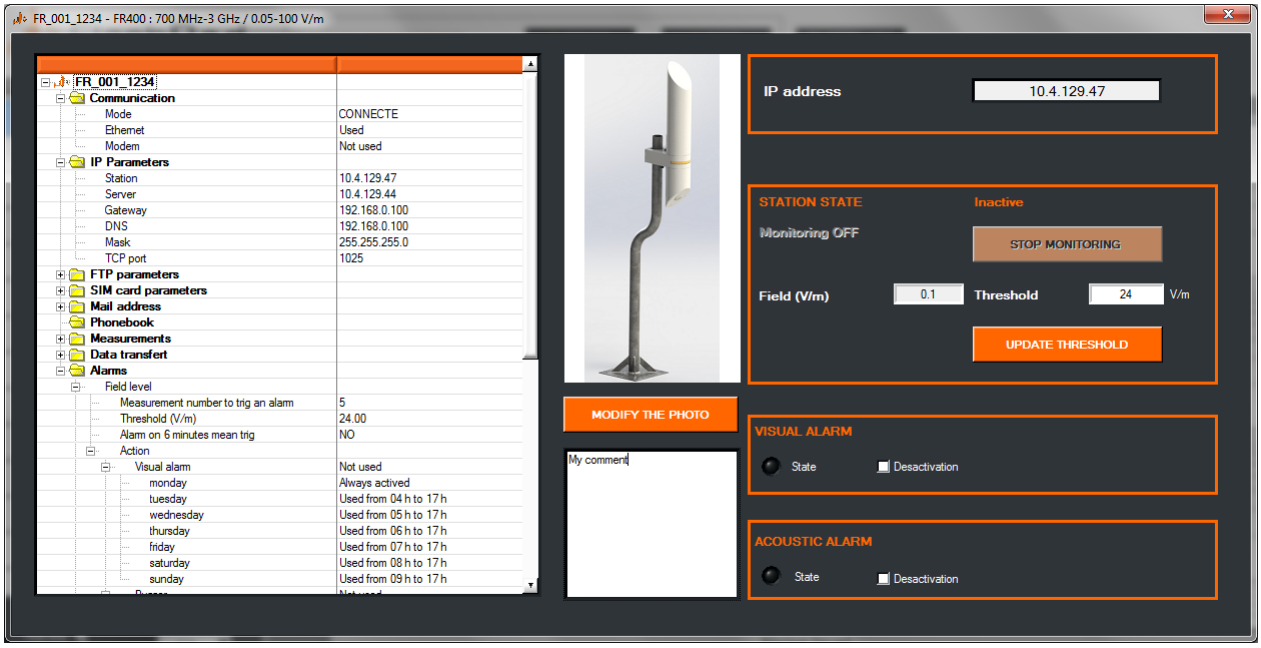

Figure 6. Station information panel

On this panel, it is possible to:

- display and modify a photograph of the station (for an optimal display, the height/width ratio of the picture must be close to 2),
- fill in a comment about the station,
- visualize the station IP address,
- visualize/modify the LED number assigned to the station on the LED box if it is used,
- visualize the last measured value,
- STOP or RESTART the station readings,
- update the station alarm threshold,
- enable/disable the station's visual and acoustic alarms.

As the station works in "Autonomous" mode, some parts of the panel will become hidden, for example the instantaneous field, the alarms states, the threshold update or the stop monitoring button.

These actions are always available in administrator mode. They are available in user mode according to the rights allowed by the administrator (see section User rights configuration).

The panel "Individual information" is also available from the other tabs (real time monitoring tab, station information tab).

2.5.4 **Emitter placement on the aerial view**

In the same way, you can place emitters on the picture. Unlike stations, the emitters are not managed by the software. They are only indicators. To place an emitter, right click on the map at the required place and click on “Place an emitter”. The emitter is depicted as a square. It has no label, nevertheless, it is possible as an indicator to visualize and modify information. To do so, click on the emitter and the panel below appears.

Figure 7. Emitter information

From this panel, you can:

- display and modify a photograph of the station,
- fill in a comment on the station,
- display a state:
    - ON, the emitter will be portrayed by a yellow LED,
    - OFF, the emitter will be portrayed by a grey LED.
- suppress this emitter.

These actions are always available in administrator mode. They are available in user mode according to the rights allowed by the administrator (see section User rights configuration).

2.6 “STATION INFORMATION” tab

This tab displays the stations in a table. Each line of the table represents a station. Every station known by the PC is listed in the table by its serial number (whether connected or not to the network), with its IP address and geographical information. The “PLACE” information can be modified and recorded by the user using the individual information panel (see section Individual information panel). To load this panel, click on the “MODIFY” button on the station line. The serial number cannot be modified using the man-machine interface.

At the first launch of the software, the table is empty as bellow. It will be automatically filled as the stations will be connected to the PC and the dialog has been established.

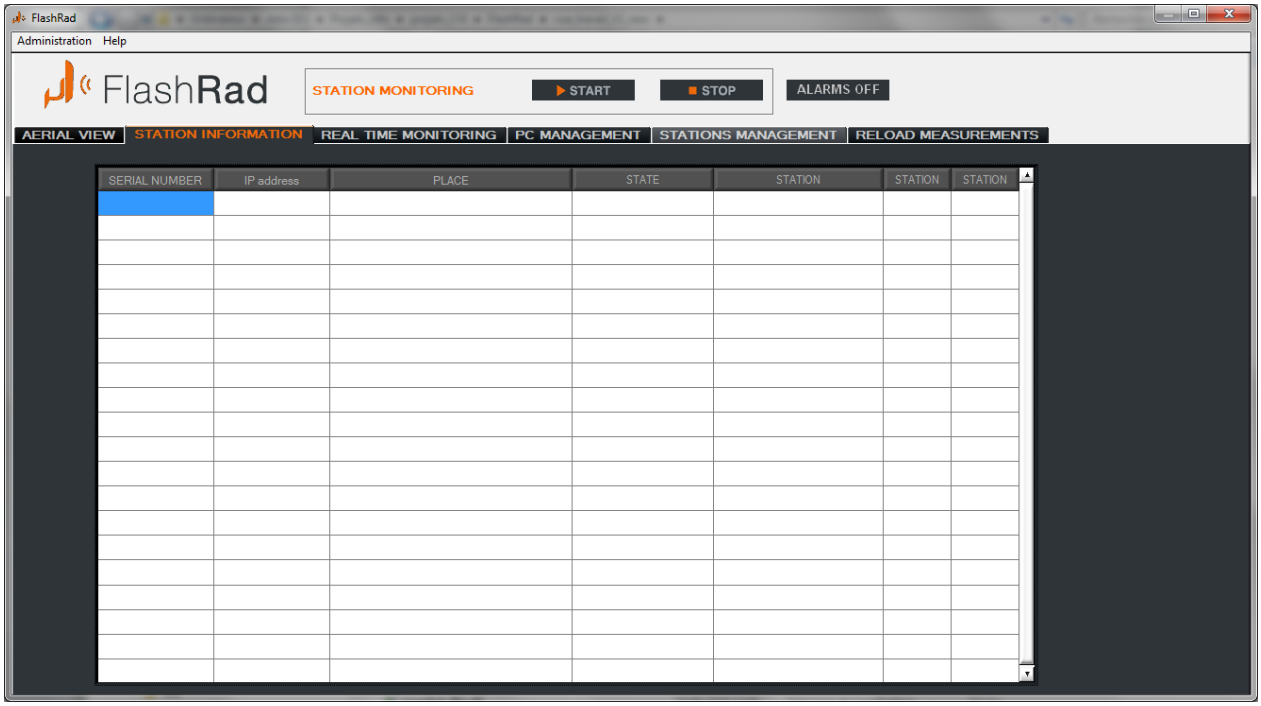

Figure 8. Global stations information panel before connecting any stations

Once stations are connected to the monitoring PC, the table automatically filled with by stations managed by the PC. This list is recorded and automatically launched at each software launching.
The table appears as bellow:

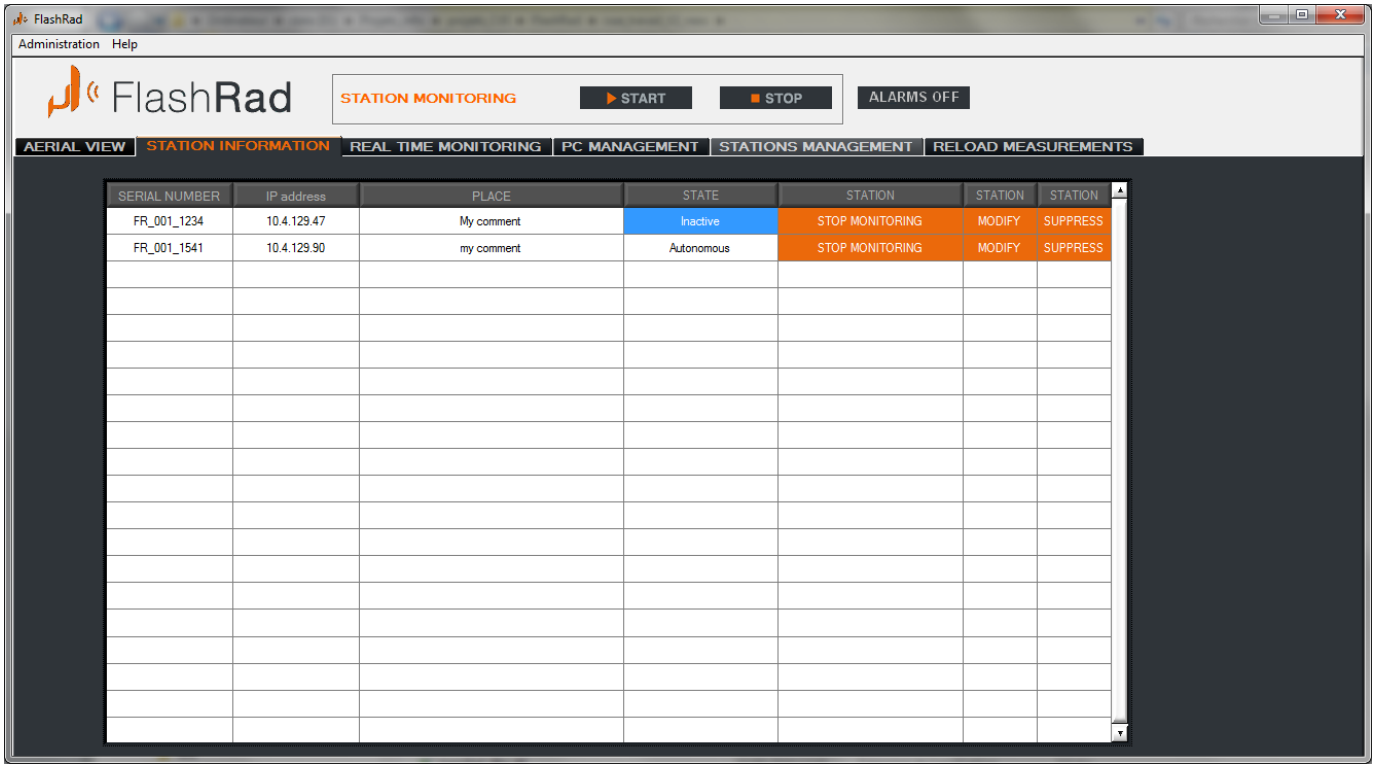

Figure 9. Global stations information panel

The “STATE” column displays the station state:

- **Autonomous**: the station has been configured to be used with a FTP server. It works in standalone mode and send its measurements files on the FTP server, either by an Ethernet cable, or by a modem,
- **Inactive**: the station and the PC are not software connected. The monitoring is OFF, the station is not physically connected to the network, or the station is electrically OFF.
- **Connected/Monitoring ON**: the station and the PC interact, the station is taking readings and the measurements are below the threshold level.
- **Connected/Monitoring OFF**: the station and the PC interact but the station is not taking readings (it has been deactivated by user).
- **Alarm**: the measurements are above the threshold level.
  In this case, the corresponding box in the table (column “STATE”) becomes red, the visual and acoustic physical alarms of the station are activated if enabled, if not the external alarm box alarms will be activated if it is connected.

Click on “STOP MONITORING” to stop the measurements on a station. A click on “RESTART MONITORING” will restart the measurements.
Click on “SUPPRESS” to suppress a station. This station will not be visible in the table.

These actions are always available in administrator mode. They are available in user mode according to the rights allowed by the administrator (see section User rights configuration).

The “LED” column (only if the LED box is used) displays the station LED number in the external box.

2.7 “REAL TIME MONITORING” tab

This tab displays all measurements done by all connected stations provided to work in connected mode with the monitoring PC. Depended on hardware probe types of the stations connected to the monitoring PC, one or several tabs must be observable (the software manage a tab by probe type).
At the first launch of the software, no tab is visible.

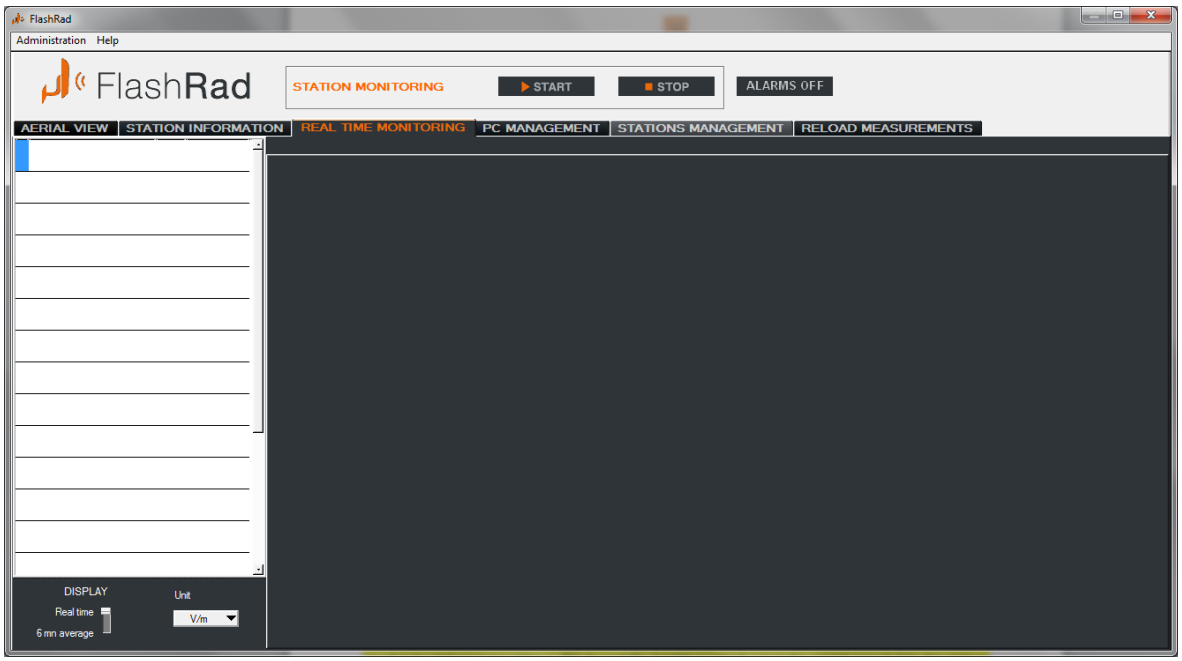

Figure 10. Real time graph before connecting stations

Once stations are connected to the monitoring PC, the table automatically filled with by stations managed by the PC. This list is recorded and automatically launched at each software launching.
The tab appears as bellow:

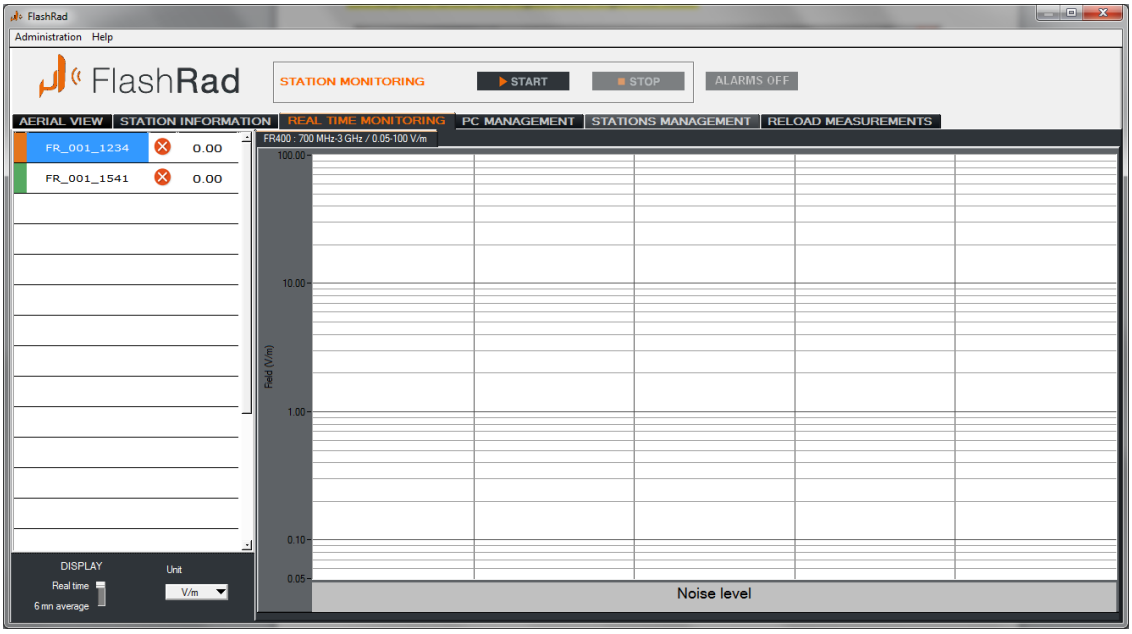

Figure 11. Real time graph

2.7.1 Display selection

When a station is taking readings, the red cross on the station label left becomes a green check and the measured values are displayed on the graph and in the table. The graph is refreshed every seconds.

2.7.2 Display mode

Measurement can be displayed in real time mode or in “6 mn average” mode according to the toggle located left bottom of the panel. An action on the “Display” toggle resets the display.
The display unit (V/m, W/m² or mW/cm²) can be modified by user but this restarts the real time display. The measurements files are recorded in V/m.
The dimmed zone below the graph depicts the stations noise level. The stations cannot sent values included in this interval.

If you do not want to visualize the measurements from a station, double click on the corresponding green check. The station continues to take readings but the values are not displayed on the graph.
It is possible to modify the curves colors however, the monitoring must be stopped before (“STOP” button).

2.7.3 Display color choice

Just perform a double-click on the line corresponding to the color to be modified. The panel below appears.

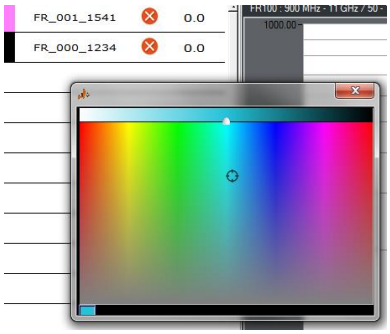

Figure 12. Color choice

Select the color you want to apply.

2.8 “PC MANAGEMENT” tab

The “PC MANAGEMENT” tab allows the user to manage:

- the global system behavior in case of alarms or user alarm reset,
- the FTP use and parameters,
- the database use if needed,
- the LED box usage.

These actions are always available in administrator mode. They are available in user mode according to the rights allowed by the administrator (see section user rights configuration) but only when the monitoring is OFF.

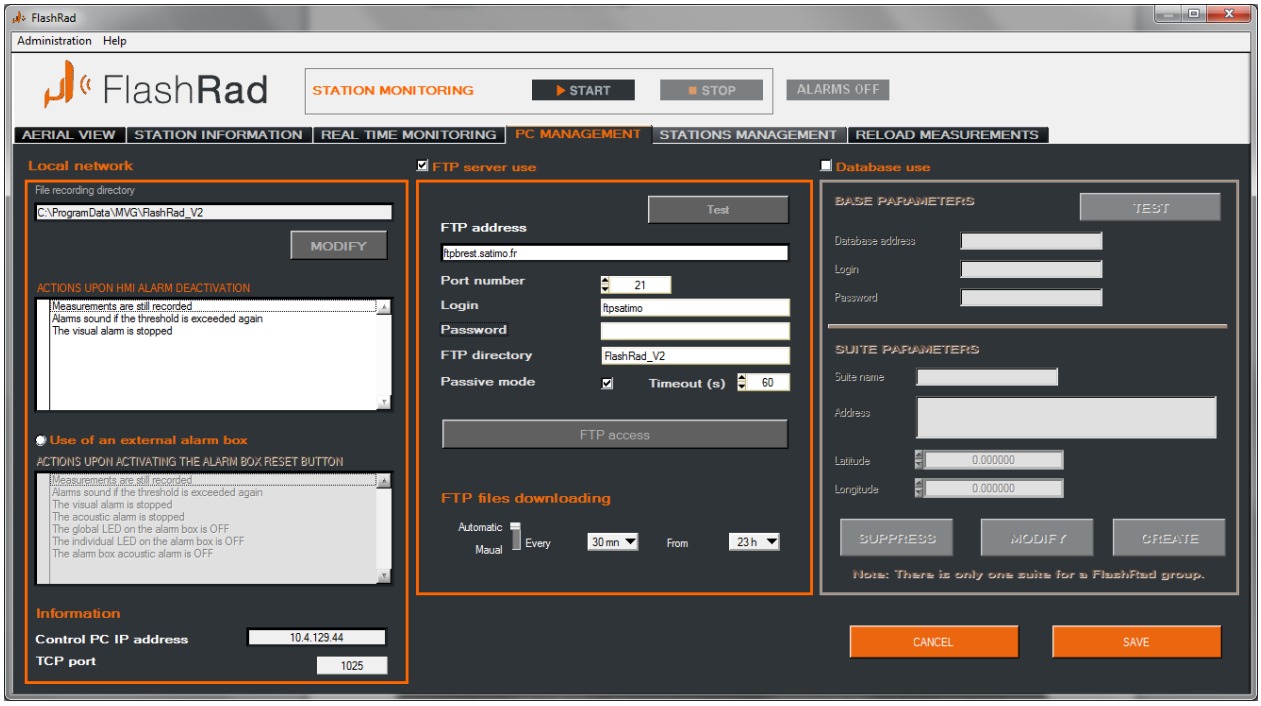

Figure 13. "PC MANAGEMENT" tab

2.8.1 **Data recording directory**

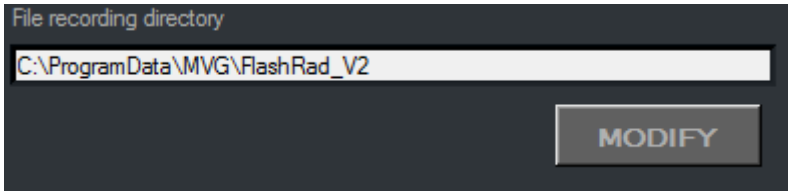

Figure 14. File recording directory

The default directory is "ProgramData\MVG\Flashrad". It is possible to modify it by clicking on the "Modify" button located at the bottom left side of the panel.

This directory is organized as bellow:

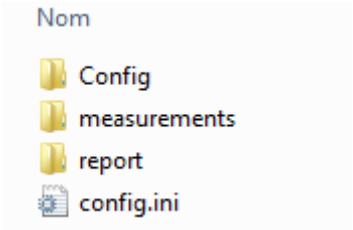

Figure 15. Data recording directory

The file config.ini contains user's parameters informations as the alarms configurations, users rights…
The "Config" directory contains FlashRad stations informations. The "measurements" directory contains all measurements files. The "report" directory contains all reports files.

2.8.2 External alarm box use

It is possible to enable/disable the use of the external alarm box. Just check ON or OFF.

2.8.3 Actions resulting from activating alarm box RESET button

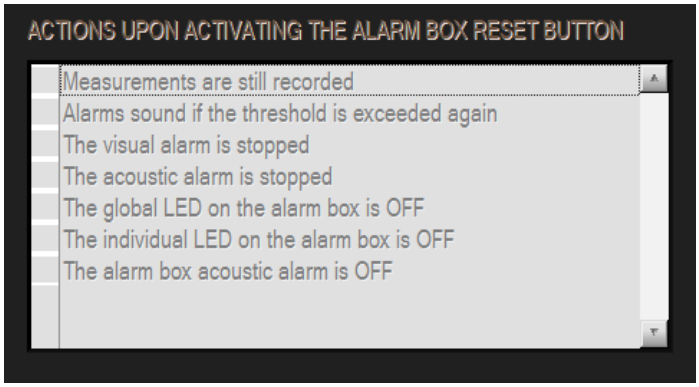

Figure 16. Results on activating alarm box RESET button

The system behavior when someone pushes the RESET button of the external alarm box is defined in the table above.

2.8.4 Actions resulting from man-machine interface alarm reset

Figure 17. Action resulting from man-machine interface alarm RESET

The system behavior is defined in the table above, when the “stop alarm” button of the man-machine interface is activated.

2.8.5 **FTP server management**

As stations are used in “Autonomous” mode, they copy regularly their measurements on a FTP server. This server must be used by different ways (storage, copy on a database to be displayed on a web page or exchange with the PC). If one wants to use the FTP server to exchange data between the PC and the stations, the server connection parameters must be filled in the zone bellow.

Figure 18. Parameters of “FTP server use”

The “TEST” button tries to connect to the server. It allows verifying that the FTP parameters have been correctly filled. The “FTP access” button displays the FTP server directory. It allows copy/suppress of files and directories. Measurement files downloading can be programmed in manual or automatic mode.
By default, these connection parameters will be used by each station.

2.8.6 **Database management**

In the case of using of a Database to record measurements and display on a web interface (software option), a server must have been configured. The server parameters and other required information for the Database can be filled in by a click on the “Database management” button. If all the Database parameters are validated and if this check box is checked, all measurements will be recorded in the Database, nothing else to do.

Click on the “Database management” button. The panel below appears:

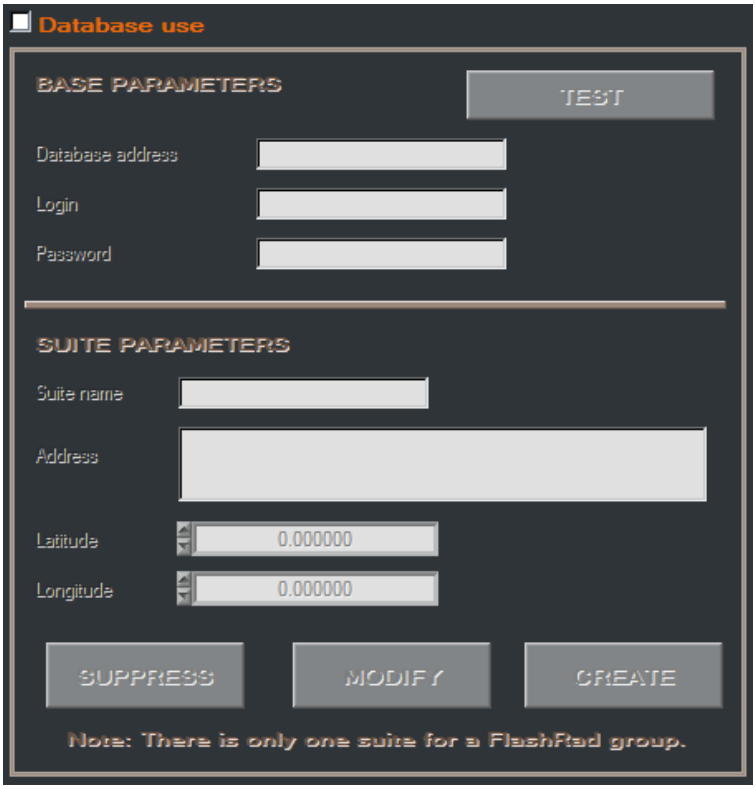

Figure 19. Database management panel

This panel defines the database parameters.
First, the database connection parameters have to be validated, that's why, the buttons on the bottom part of the panel are dimmed (SUITE PARAMETERS).
The field "database address" must be filled with the IP server address. The server is the PC where the database is hosted.
The fields "Login" and "Password" are the database connection parameters.
Once completed, a click on the "TEST" button performs a connection/disconnection to the database which validates the parameters.

The database used with FlashRad software is related to a "suite" of devices. The goal is to reference the place where the FlashRad stations are located. For database management, the stations have to be integrated in one and only one suite (the integration is automatically done at the suite creation). That's why the suite creation is mandatory. To create the suite, you just have to fill in the fields "Name", "Address" and the GPS coordinates (each parameter can be modified afterwards).

When the connection test is done, the "CREATE" button becomes undimmed. A click on this button allows the database creation and the automatic integration of the FlashRad devices known by the software. If the suite exists, the buttons "MODIFY" and "SUPPRESS" become undimmed.

Warning: a suite suppression removes all measurements in the database.

2.9 “STATIONS MANAGEMENT” tab

The “STATIONS MANAGEMENT” tab is divided into sub-tabs which are descripted bellow.

2.9.1 ″GENERAL″sub-tab

This tab defines the communication mode (“Autonomous” or “Connected”) and to define the network parameters for each station.

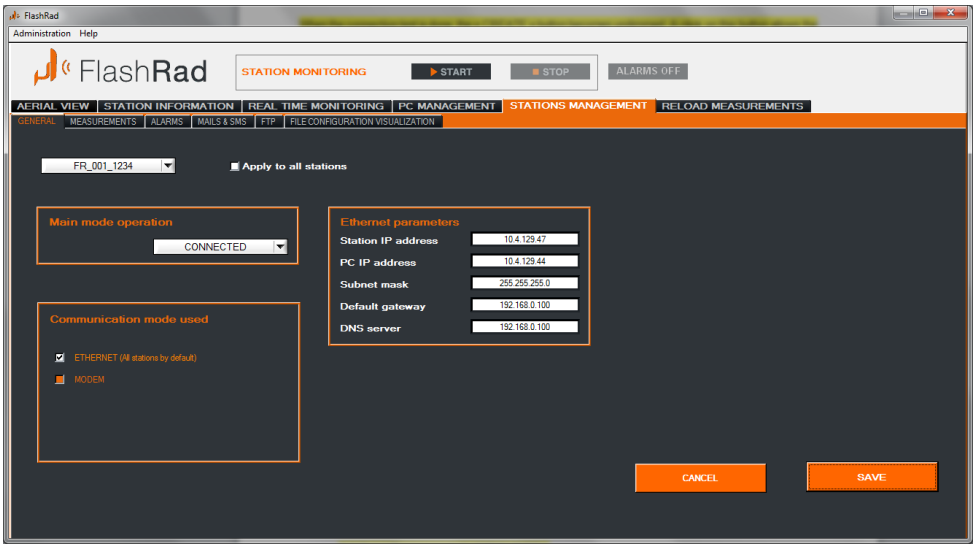

Figure 20. “GENERAL” sub-tab

Ask your network manager for help about network addresses.

2.9.2 ″MEASUREMENT″ sub-tab

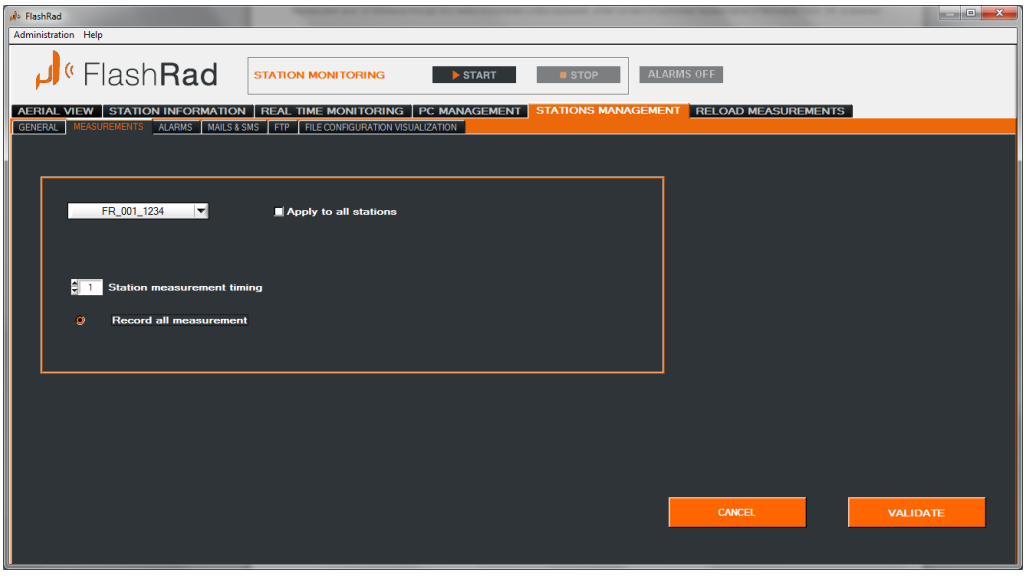

Figure 21. “MEASUREMENT” sub-tab

Station measurement timing: the value must be between 1 and 60 seconds.

Record all measurements: by default, only field values over the alarm threshold will be recorded. If these box is checked, all measurement of the station will be recorded in a daily file (one file by day by station).

2.9.3 MAILS & SMS sub-tab

Alarm broadcast by email

It is possible to send alert emails in several cases. Check the box “Mail alert use” and fill email addresses as bellow. Check the “MAIL alert use” box to undim the controls:

Figure 22. Email address definition

This part of the panel defines sending and reception parameters for the emails.

Sending parameters:

- sender mail address,
- outgoing server (ask your network manager if necessary).

Reception mail addresses must be filled in the “prefix” and “suffix” fields and added by clicking on the button  .

One can check/uncheck the address in the table by clicking on the red cross/green check located in the left column.
The “TEST” button sends a test mail at the selected addresses. The “SAVE” button records the parameters.

SMS parameters

It is possible to send alert SMS in several cases. Check the box “SMS alert use” and fill phone numbers as bellow. Check the “SMS alert use” box to undim the control but only if at least one of the stations used is equipped with a modem and a SIM card.

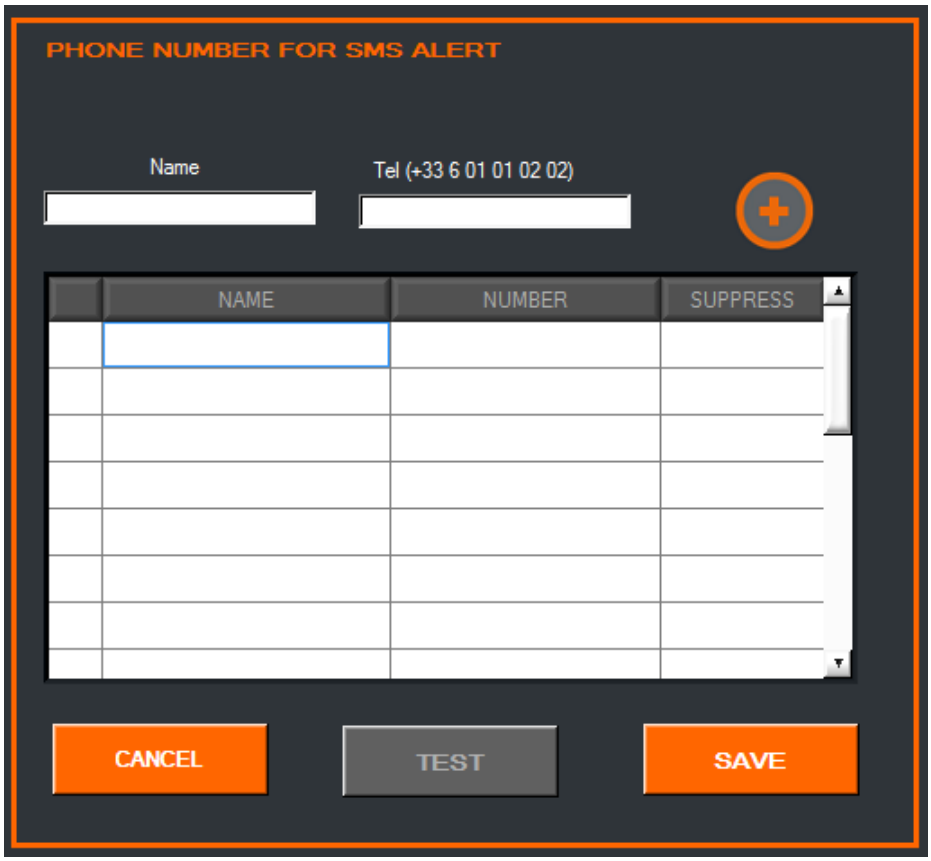

Figure 23. Phone number for SMS alertl

Phone numbers must be filled in the fields and added by clicking on the button  .

Each number can be selected/unselected by a double click on the red cross/ green check on the left column.

The “TEST” button sends a test SMS at all selected phone number, but only if a station equipped with a modem is connected to the monitoring PC.

The “SAVE” button records the parameters.

2.9.4 "ALARMS" sub-tab

FlashRad stations can trig alarms on over filed measurement but also on stations internal defaults. Internal defaults can be:

- FlashRad battery low level,
- temperature too high,
- internal memory low,
- communication error,
- moisture level too high.

The tab bellow allows managing both over field alarms and type of alert to trig by alarms defaults type.

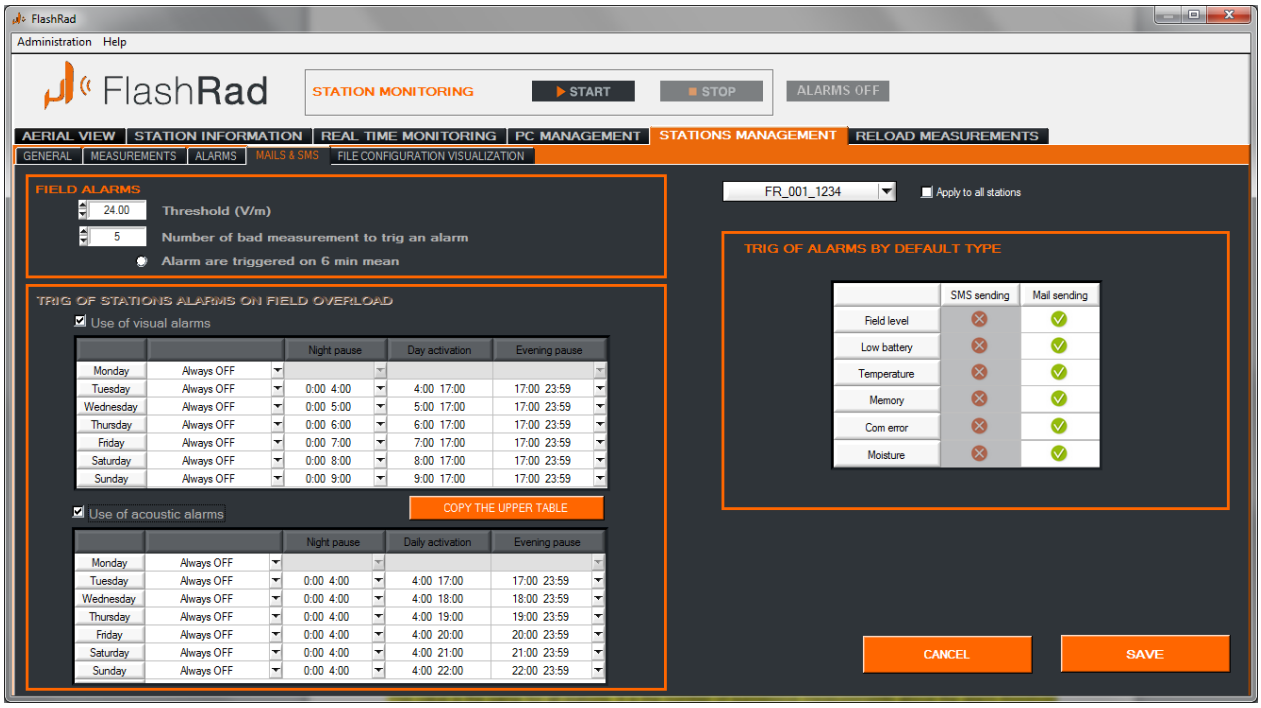

Figure 24. "MAILS & SMS" sub-tab

2.9.4.1 Over field measurement alarms management

Number of above-threshold measurements triggering an alarm

This value is the same for all stations. It is the number of successive measurements above the alarm threshold triggering an alarm for a station.

Alarms are triggered on 6 minutes mean

This value is the same for all stations. By default, alarms are triggered after n following measurement above the threshold. Checking this box, alarms will be triggered after n following values of the 6 minutes mean above the threshold.

2.9.4.2 Visual and acoustic alarm use

Warning: visual and acoustic alarms can be used only for stations working in “connected mode”.

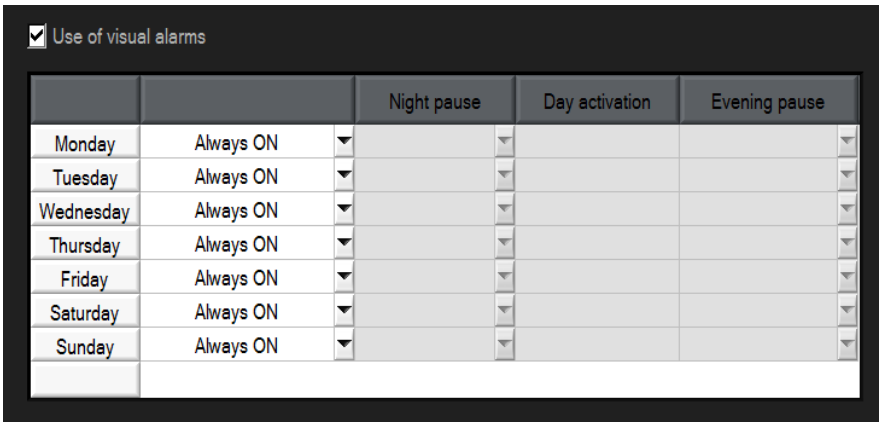

Figure 25. Visual alarm time slot table

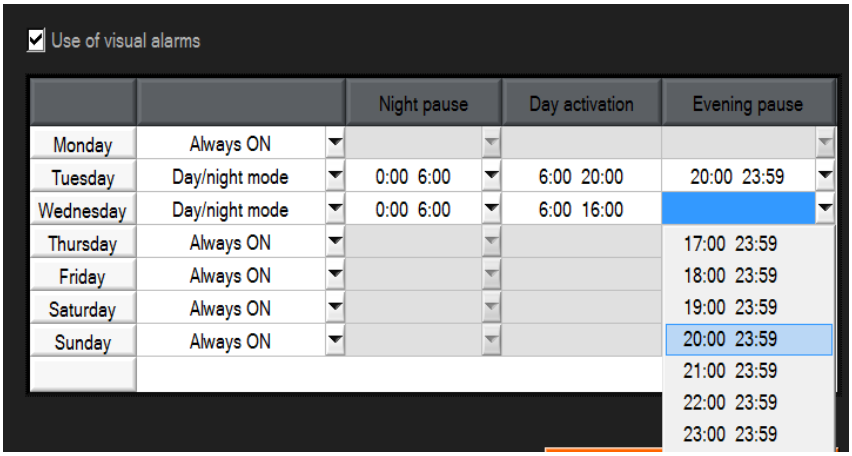

Figure 26. Acoustic alarm time slot definition

It is possible to enable/disable independently visual and acoustic alarms for a predefined time slot for a particular day of the week.
To define the use of visual alarms, check the box “Use of visual alarms” located just above the table. By default, alarms are always enabled. To modify the configuration, select “Day/Night Mod” for one day. It is possible to choose a night time slot during which all a station’s visual alarms will be disabled. This time slot is variable. The alarms will automatically become enabled during the day, when the disabled time slot has finished.

Acoustic alarms follow the same principle but they are independent of the visual alarms. Nevertheless, it is possible to use the same time slot for both visual and acoustic alarms, just click on the “COPY THE UPPER TABLE”.
If a station works in “Autonomous” mode, controls and tables used to manage acoustic and alarm triggering will be dimmed when this station will be selected.

2.9.4.3 Trig of alarms by default type

Here can be define if an email or SMS alert must be send on a station internal default detection.

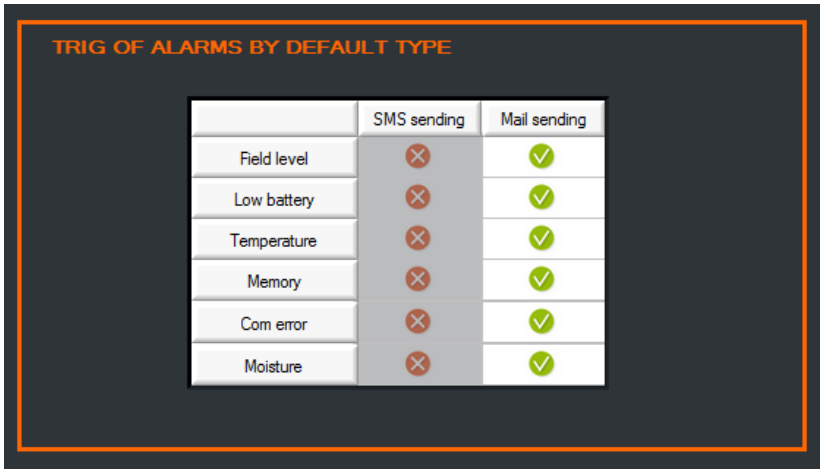

Figure 27. Alarm trig on station internal defaults

If none action is selected for a default type, the station will simply stop.
If any station is equipped with a modem, the column “SMS sending” will be dimmed.
A double click on a box of the table will change the red cross in a green check and vice versa.

2.9.5 *"FTP" sub-tab*

This tab manages the stations FTP parameters. If FTP parameters have been filled in the “PC MANAGEMENT” tab, these parameters will be suggested by default.

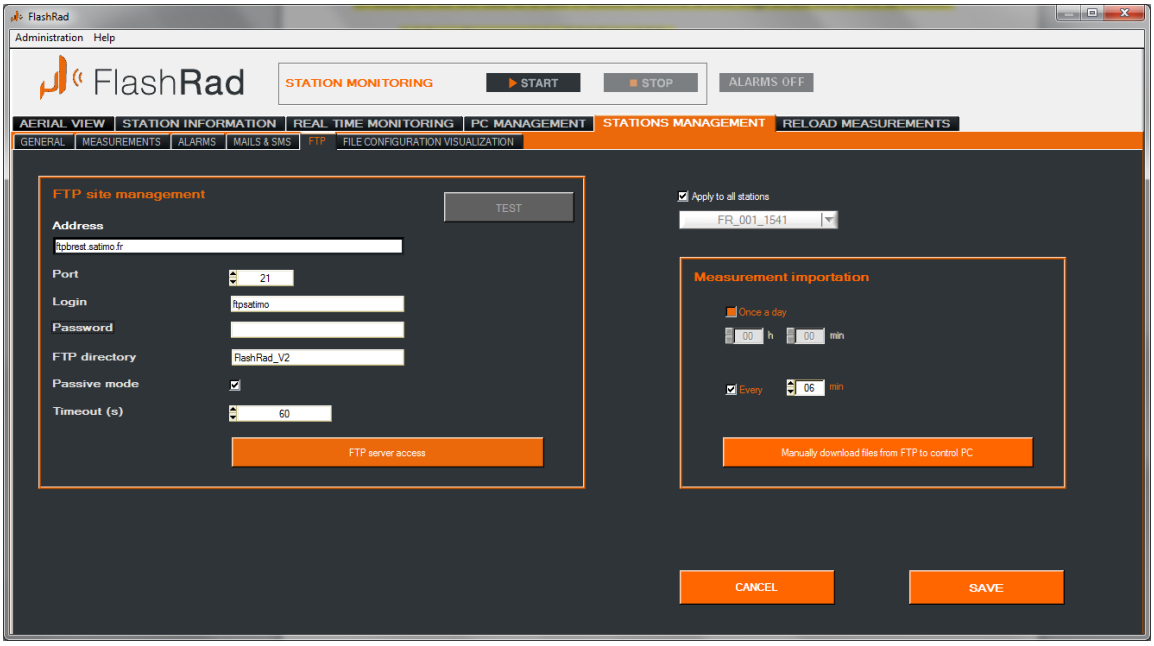

Figure 28. “FTP” sub-tab

The left part allows to fill and test the FTP parameters. The right part allows to manage the cadence of measurement files uploading on the FTP server.
The choice “once a day” fixes the time when measurement files will be uploading on the FTP server. If this choice is selected, measurement files will be uploading on the FTP server every day of the week at the same time.
The choice “Every x min”, programs the station to send measurement files several times by day, every day.

2.9.6 ″FILES CONFIGURATION VISUALIZATION″ sub-tab

This tab displays the complete configuration of a station to verify before the copy in the station memory.

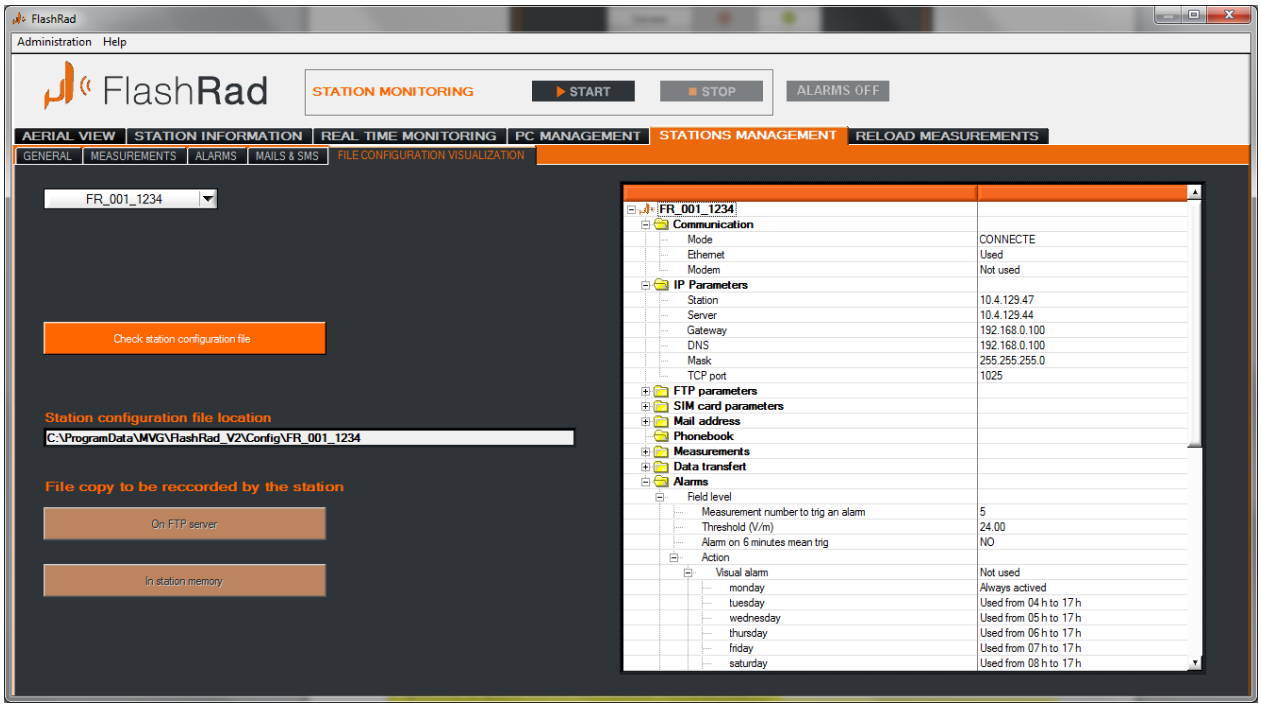

Figure 29. “FILES CONFIGURATION VISUALIZATION” sub--tab

Station parameters are recorded in a file on the monitoring PC in the directory displayed on the panel. This file must not be manually modified. A manual change of this file may cause a malfunction of the PC software or of the stations behavior.
Buttons located at the left: “File copy to be recorded by the station” copy the file, directly in the station memory if the station works in “Connected” mode with the PC, or on the FTP server in “Autonomous” mode. In this case, next time the station connects on the FTP server, it will read the file and record it in its memory.

2.10 "RELOAD MEASUREMENTS" tab

This tab allows reloading a measurement file.

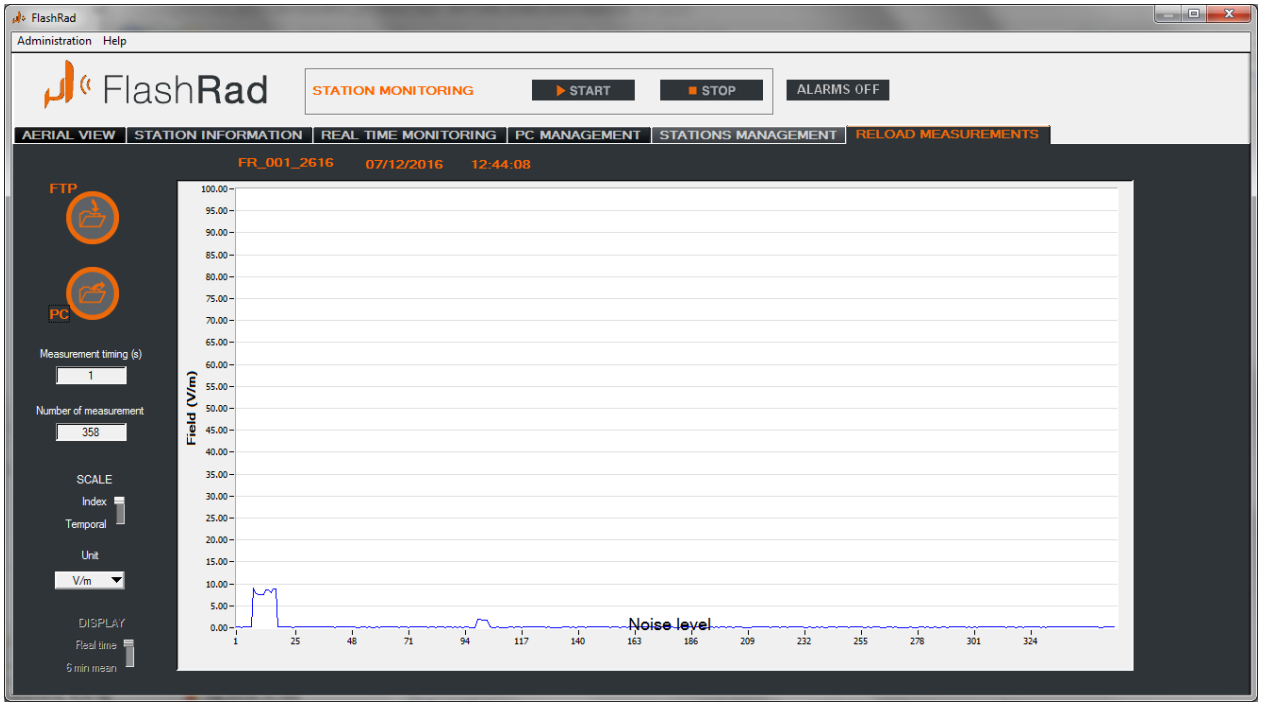

Figure 30. "RELOAD MEASUREMENTS" tab

The button located top left allows reloading of a measurement file.
The station serial number and the beginning date and time of measurement are displayed above the graph. Measurement information like measurement timing and the total number of measurements are displayed on the left of the graph.

Several display modes are available:

- X index or temporal,
- Y unit in V/m, mW/cm² or W/m²,
- instantaneous or 6 min mean display.

2.11 "MAINTENANCE" tab

This tab allows performing some tests on a station. One has to log as “super administrator”. Then, the “Maintenance” tab appears. First, the “MAINTENANCE” tab is dimmed. To undim the “MAINTENANCE” tab, check “Maintenance” in the “Administration” menu.

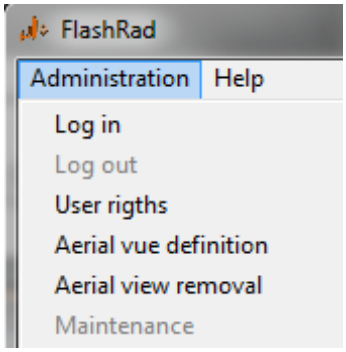

Figure 31. "Maintenance" choice in the “Administration” menu

The “MAINTENANCE” tab appears as bellow:

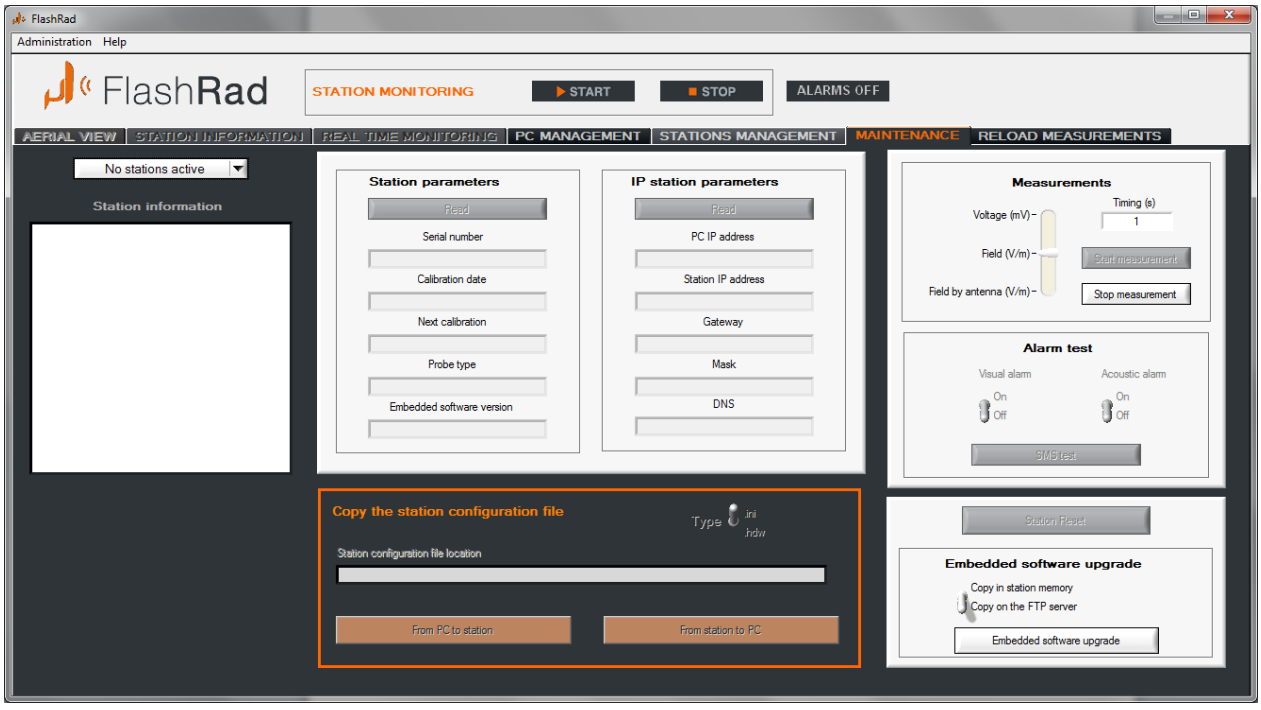

Figure 32. "MAINTENANCE" tab

As a station is selected, the buttons become undimmed. Some tests can be performed on the selected station.

Note: if the alarm box is not plugged in, the area concerning the LED box will not appear.
All buttons and controls are dimmed until any station is selected. A station must be selected in the connected stations list (top left of the tab).

The “Information Station” list located bellows the stations list displays data receipted from the station during tests.

2.11.1 Station parameters

The “Read” button asks the station and displays:

- the serial number,
- the calibration date,
- the next calibration date,
- the probe type,
- the embedded software version.

2.11.2 Station IP parameters

The “Read” button asks the station and display:

- the monitoring PC IP address,
- the station IP address,
- the gateway address,
- the subnet mask,
- the DNS.

2.11.3 Measurement

When a station is selected on the maintenance tab, measurements on this station are stopped. Some manual measurements can be run by clicking on the “Start measurement” and “Stop measurement” buttons located on the right. Unlike automatic measurement, several measurement types can be selected. The possibilities are:

- voltage (V),
- field (V/m),
- field by antenna (V/m).

Note: all stations get back automatically in total field measurement mode when the “MAINTENANCE” tab is lived.

2.11.4 Alarm tests

Visual and acoustic alarms of the selected station can be individually tested, thanks to controls located right bottom of the tab.

2.11.5 SMS tests

This button asks the station to send a SMS to every recording phone number. This test runs only if the station is equipped with a modem and a SIM card. If it works, every phone will receive a SMS from the station.

2.11.6 Configuration files copy in the station mémory

This part of the panel allows to copy files from the station to the PC or from the PC to the station.

This files can be configuration files (“.ini” files) created by the PC or “.hdw” files delivered by MVG.

2.11.7 **Embedded software upgrade**

This action must be done only on MVG Industries demand during a remote troubleshooting. The file to be downloaded is delivered by MVG Industries.
The copy can be done directly in the station memory if the station connected to the monitoring PC, or by FTP if the station works in “Autonomous” mode.

Embedded software upgrade of an “Autonomous” station: the embedded software will be uploaded on the FTP server. When the station copies this measurement files on the FTP server, it takes into account the new embedded software and download it. The real upgrade will be done at this moment.
For this action, to select a station in the maintenance panel is not mandatory.

Embedded software upgrade of a “Connected” station: the embedded software will be directly copied in the station memory and the upgrade will be instantaneous. In this case, to select a station in the maintenance panel station list (top left of the panel) is mandatory. Otherwise, the control bellow cannot be put on “Copy in station memory”.

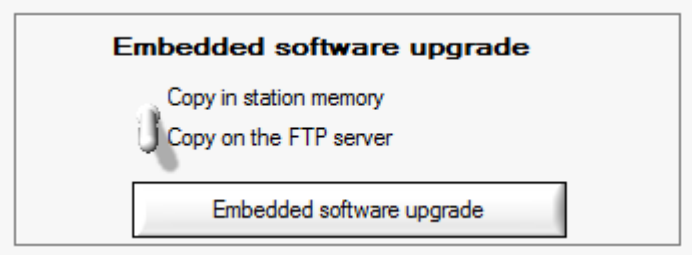

Figure 33. “Embedded software upgrade” part of maintenance panel

A click on “Embedded software upgrade” displays a warning panel:

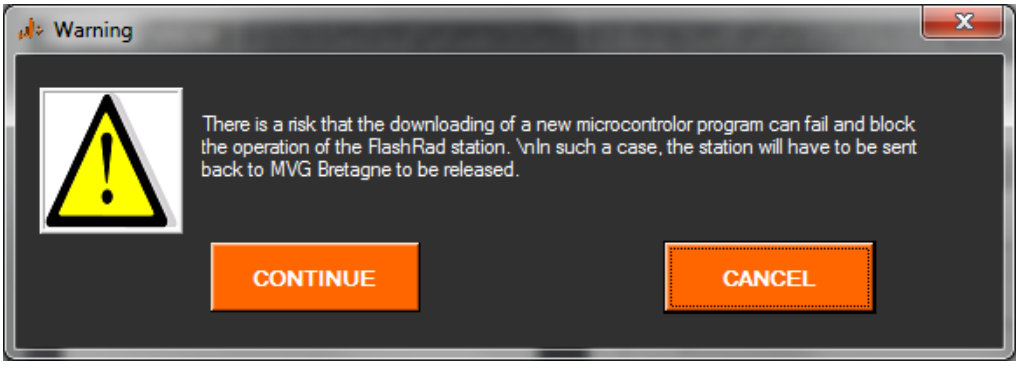

Figure 34. Warning panel display

Depending on the communication type selected in the previous panel (“Copy in station memory” or “Copy on the FTP server”), a click on “CONTINUE” loads:

- directly a windows browser to select the file to be copied for a copy on the station memory,
- the following panel for a copy on the FTP server:

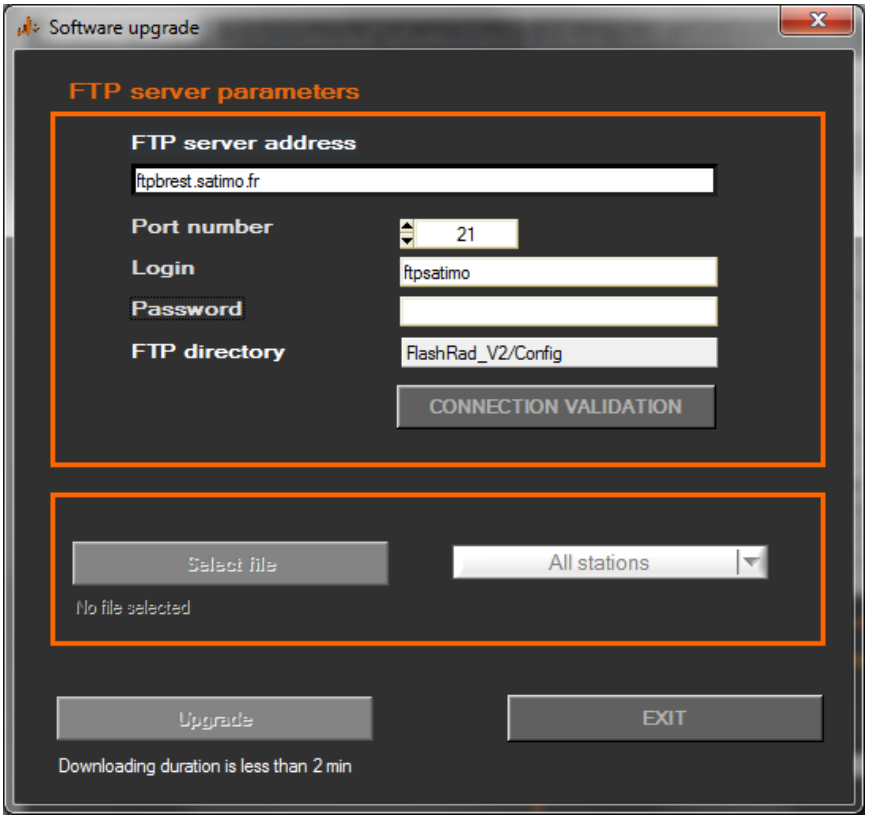

Figure 35. Software upgrade in “Autonomous” mode

This panel allows the software upgrade by FTP.
First, the FTP server parameters have to be verified. A click on “CONNECTION VALIDATION” tries to access the FTP server. If the test result is OK, the “Select file” button and the station selection list will undim. When a file has been selected, the “Upgrade” button undim. It is not mandatory to select a station in the stations selection list. In this case, the upgrade file will be copied in each station directory on the FTP server. To upgrade a particular station, select it in the list.
A click on “Upgrade” copies the file on the FTP server.

2.11.8 **Led box test**

If the alarm box is connected and has been validated during the configuration step, some tests can be run.

2.12 Station monitoring

“START” and “STOP” buttons of the main panel controlling the station monitoring.

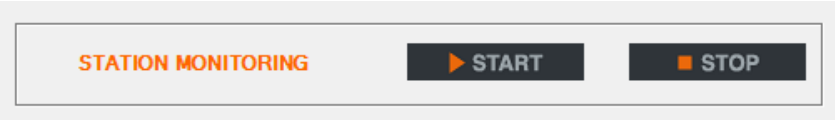

Figure 36. “START” and “STOP” buttons.

Click on “START” to begin the monitoring.
Click on “STOP” to stop the monitoring.
On “START”, the PC waits for a connection call from the stations. Every 220V supplied station which is connected to the “PC-stations” Ethernet network, tries to connect to the PC. As a station is connected, the PC displays the station serial number on the man-machine interface. The software can monitor up to 20 stations. On the PC screen, the controls corresponding to the connected stations become undimmed.
If an external alarm box is used, a click on the “START” button triggers a buzzer test. This is a short under 1s buzz.
While the monitoring is running, the “system management” tab cannot be used (it is why that’s dimmed).

Note: if all stations are working in “Autonomous” mode, it is not required to start the monitoring. Downloading of measurements files from the FTP server will be done anyway.

2.13 Alarm box autotest

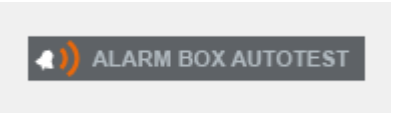

Figure 37. “ALARM BOX AUTOTEST” button.

Click on the “ALARM BOX AUTOTEST” on the main screen to execute an alarm box autotest. This test lights the LEDs one after the other for 1 sec. At the end, the buzzer is turned on and off.

2.14 Menus

2.14.1 Administration menu

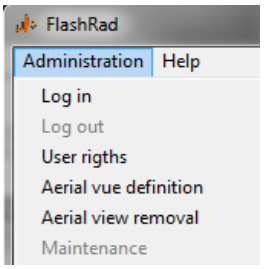

Figure 38. “Administration” menu.

- The Administration menu (see behind) allows to login/logout each user mode. Depending of user rights (defined at Administrator level), the “User rights”, “Aerial definition” and “Aerial view removal” items could be dimmed or not.
- The item “User rights” allows loading the user right definition panels (defined at section User rights configuration).
- The item “Aerial definition” and “Aerial view removal” are defined at “AERIAL VIEW” tab section.
- The item « Maintenance », is undim only in, “Super Administrateur” mode. It is defined at section « MAINTENANCE » tab.

2.14.2 Help menu

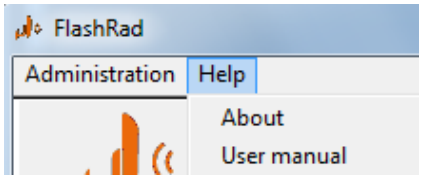

Figure 39. Help menu

This menu allows to load FlashRad user manual or to visualize the information panel bellow.

Figure 40. Software information panel

2.15 Text reports

Several reports are automatically generated:
If every station works in “Connected” mode, a common daily report is created every day for all stations. If a station works in “Autonomous” mode, it creates its own daily report which is seeded on the FTP server and downloaded by the PC. In this case, there is a daily report for the PC and daily reports for each station in “Autonomous” mode.

- **PC daily report:** this report is created every day. There is only one report for each day. It is labeled daily_report _YYYY_MM_DD.txt (YYYY for the year, MM for month, DD for the day). Every daily report is sorted in the \reports directory, located in the record directory selected by the user on the “PC management” tab. The daily report lists all the events that occur for the stations. Possible events: connection, disconnection, threshold exceeded, alarms stopped by user, communication lost, results of FTP downloading…. In the case of no events during 24h, the station name is listed with the message «no alarm» at 23h50.

  Daily report example: daily_report _2012_06_13.txt

16:36	FR_012_0000	Connected
16:36	FR_012_0000	Alarm: Threshold exceeded. 150 V/m
16:37	FR_012_0000	Threshold update. 200 V/m
17:02	FR_012_0000	Connection lost since 70.000000
17:30	FR_012_0000	Connected
18:30:52	FR_001_1216	The files have been successfully downloaded from the FTP server.
Number of files::12		
11:30:53	FR_001_1216	The files have been successfully downloaded from the FTP server.
Number of report files:1		
23:50	FR_000_0009	No alarm.
23:50	FR_000_0019	No alarm.

- **Daily report of an “Autonomous” station:**
  A rapport is created every day by each “Autonomous” station. The report name is daily_report _AAAA_MM_DD.txt (with AAAA for the year, MM for the month and JJ for the day). Every daily report downloaded by the PC is copied in the “Reports” directory of the directory selected in the “PC MANAGEMENT” tab. The daily report lists all the events that occur for the stations. Possible events: connection, disconnection, threshold exceeded, alarms stopped by user, communication lost…if no events during 24h, the station name is listed with the message “no alarm” at 23h50.

- **Measurement files.**

  They are from two types:

  Files containing only measurement above the threshold. There is zero or one file for a station for one day. Files are sorted in the measurement directory “\Mesures\ FR_xxx_xxxx” (where FR_xxx_xxxx is the station serial number). This directory is located in the directory selected by the user on the “System management” tab.
  For one day and one station, the file name is FR_xxx_xxxx_YYYY_MM_DD.txt (xxx_xxxx is the station serial number, YYYY the year, MM the month and DD the day).
  For a station, if the threshold is not exceeded, the daily measurement file will not be created. If one or more measurements exceed the threshold, the file is created and every above-threshold measurement is stored with a timestamp.

File measurement example: FR_000_0019_2012_06_13.txt

05/12/2016,07:05:21,150.02,N
05/12/2016,11:51:41,105.03,N
05/12/2016,11:51:42,108.55,N
05/12/2016,11:51:43,122.02,N
05/12/2016,17:05:55,106.38,N

Each line contains:

- The date JJ/MM/AA,
- The time HH :MM :SS,
- The field level,
- An end line flag. It can be « N » (Normal) or « P » if the measurement can be perturbed, for example during modem data sending.

Daily files containing all measurement made by a station. There is only one file by station by day. The file label is FR_xxx_xxxx_full_YYYY_MM_DD.txt (xxx_xxxx for the station serial number, YYYY for the year, MM for the month and DD for the day). Files are sorted in the measurement directory "\Mesures\ FR_xxx_xxxx" "FR_xxx_xxxx" this directory is located in the directory selected by the user on the "System management" tab.
These files are created only if the option has been selected in the "system management" tab.

File measurement example: FR_000_0019_2012_06_13.txt

05/12/2016,17:05:33,0.02,N
05/12/2016,17:05:35,0.02,N
05/12/2016,17:05:37,0.02,N
05/12/2016,17:05:39,0.02,N
05/12/2016,17:05:41,0.02,N
05/12/2016,17:05:59,0.02,N
05/12/2016,17:06:01,0.02,N
05/12/2016,17:06:03,0.02,N
05/12/2016,17:06:05,0.02,N
05/12/2016,17:06:07,0.02,N
05/12/2016,17:06:09,0.02,N
05/12/2016,17:06:11,0.02,N
05/12/2016,17:06:13,0.02,N
05/12/2016,17:06:15,0.02,N
…

05/12/2016,17:11:22,0.02,N
05/12/2016,17:11:24,0.02,N
05/12/2016,17:11:26,0.02,N
05/12/2016,17:11:28,0.02,N
05/12/2016,17:11:30,0.02,N

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