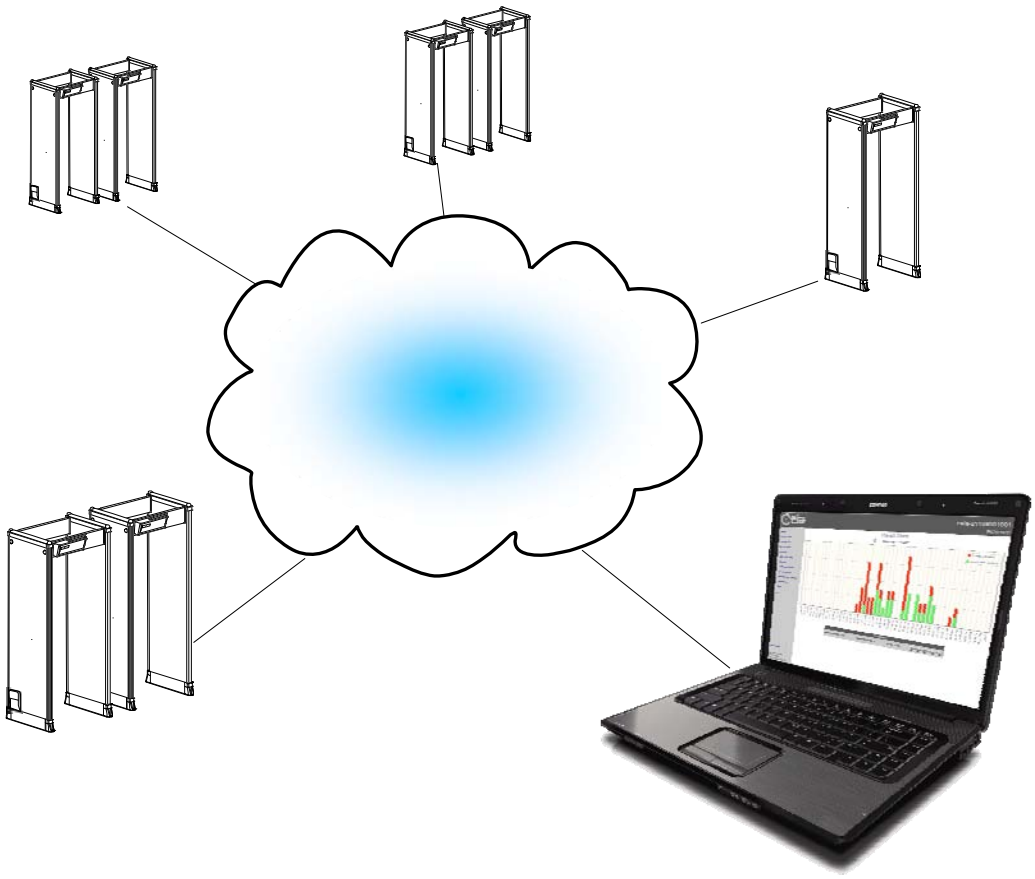
.



**METAL DETECTOR**
**with APSIM2Plus Interface**
***Setup and Use***

# OVERVIEW

This manual contains all necessary information for a correct setup and use of the APSIM2/Plus web server and logger integrated in a CEIA Walk-Through Metal Detector.

**Revisions**

| Code | Firmware Version | Date | Author | Reference | Changes |
|---|---|---|---|---|---|
| FI060K0060v1000 UK | XCV1010 | 2011-07-26 | DTP-BC | - | First edition |
| FI060K0060v1100 UK | XCV1010 | 2011-07-29 | DTP-BC | - | Time Zone selection |

CEIA reserves the right to make changes, at any moment and without notice, to the models (including programming), their accessories and options, to the prices and conditions of sale

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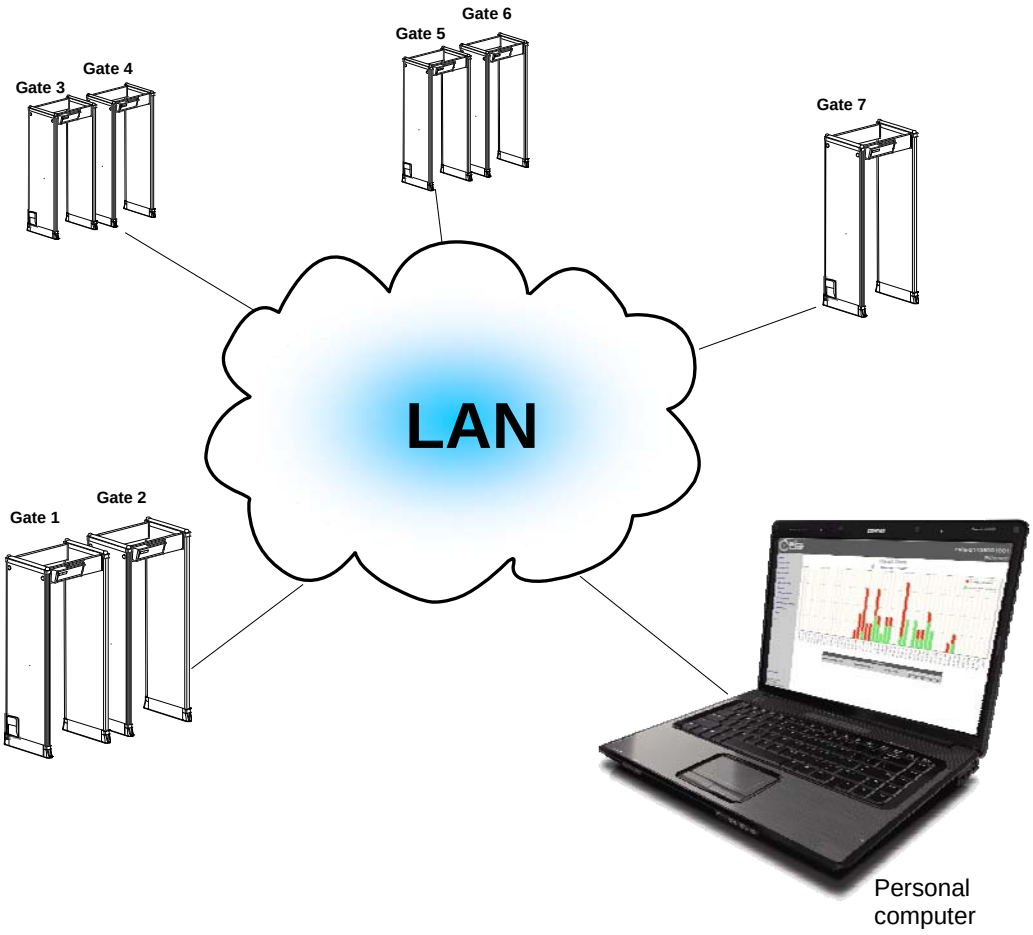
# 1 SETUP

## 1.1 System Overview

The CEIA network basically consists of several CEIA units and one or more personal computers communicating each other via an Ethernet LAN.



## 1.2 Setup procedure of a network

This section describes the setup procedure of a network between CEIA Walk-Through Metal Detectors equipped with a web server and logger type APSIM2/Plus.

**Procedure overview**
The setup of the networked units consists of the following steps:

- Connection to the web server of a CEIA device
- Configuration of the web server of a CEIA device
  - Setting of date and time
  - Setting of the device name (no mandatory step)
  - Setting of the network data, if necessary
- Definition of the group(s) the CEIA devices belong to

**Required tools:**

- PC or Laptop
- Network Cable (Crossover or Straight type)
- Bonjour Service for Windows (strongly recommended)
- Internet Browser

### 1.2.1 Factory Setting of the Metal Detectors

The Ethernet module is pre-set in factory with the following data:

- Hostname: CEIA-<SN>, where <SN> is the serial number, indicated in the label present on the transmitter antenna of the archway . Example: "CEIA-21006012345".
- IP address, Gateway and Subnet Mask: DHCP (Dynamic Host Configuration Protocol) or static ID address 192.168.0.1 if DHCP is not available.

### 1.2.2 Connection to the web server

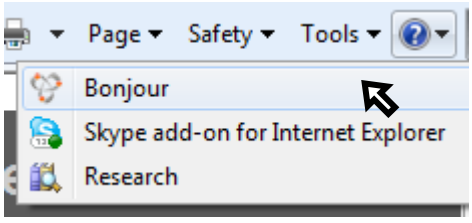
**NOTE** The easiest way to discover the CEIA device, independently of the net work IP setting (static IP or DHCP), is to use the Bonjour service that scans the LAN and provides a list of the units connected. This method is described below.

#### 1.2.2.1 Connection to the web server using Bonjour Service

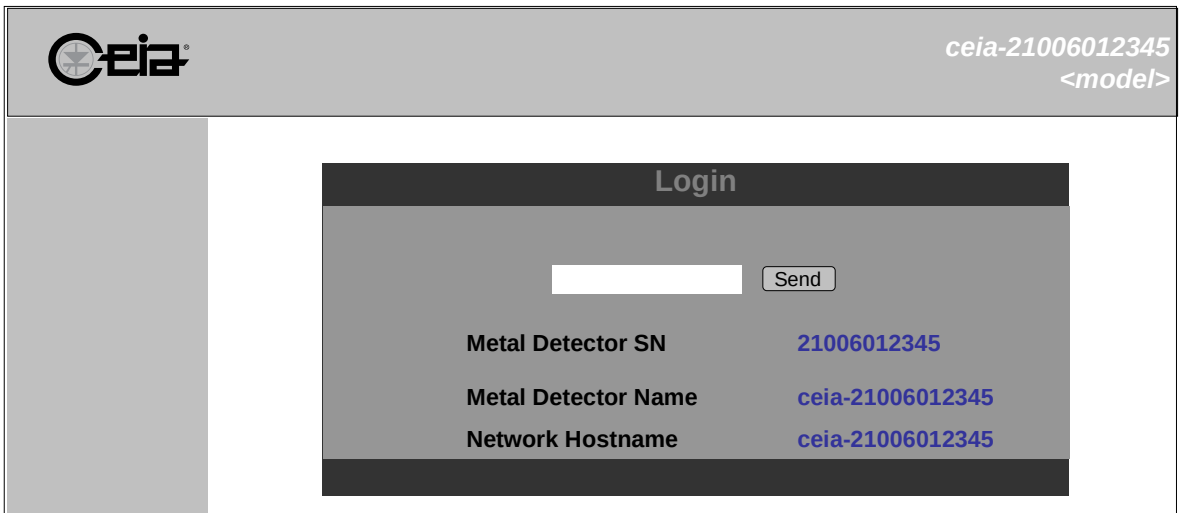
- Connect the laptop directly to the unit using the Ethernet cable.
- Install Bonjour Service for Windows in your laptop.

Note: *If the package "**Bonjour Print Services for Windows**" is installed, uninstall it before to install this package.*

- If you have Bonjour Service installed in your laptop, opening Internet Explorer or Safari, you will find the list of the devices in the left Panel.
- To have the list using Internet Explorer click here:



- To have the list using Apple Safari go to the Bonjour section of your bookmarks library.
- Double Click on the correct device and you will be redirected to its website: a login box appears.

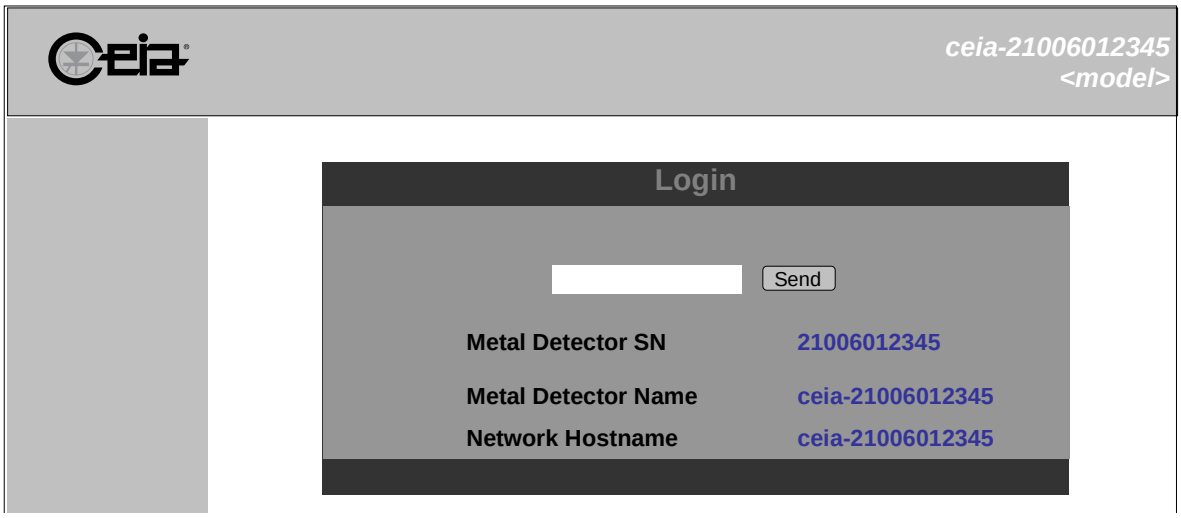



### 1.2.2.2 Connection to the web server using static IP

If the Bonjour protocol is not installed/working in your laptop, you can connect the Ethernet module using its default IP address: 192.168.0.1.

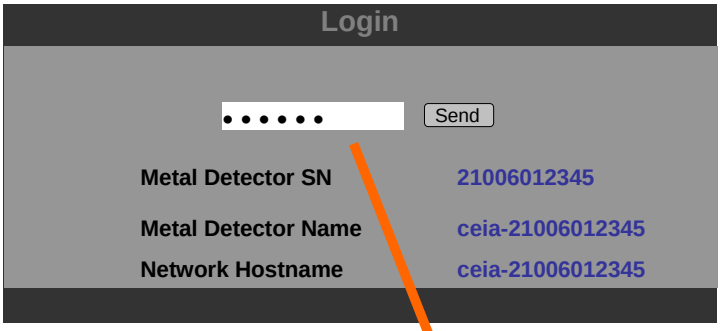
- Connect the laptop directly to the unit using the Ethernet cable.
- Set an IP address on the same subnet as the CEIA unit: IP address 192.168.0.xxx , where xxx > 1 and subnet mask 255.255.255.0.
- Open an Internet browser and type the default IP address: http://**192.168.0.1**: a login box appears.

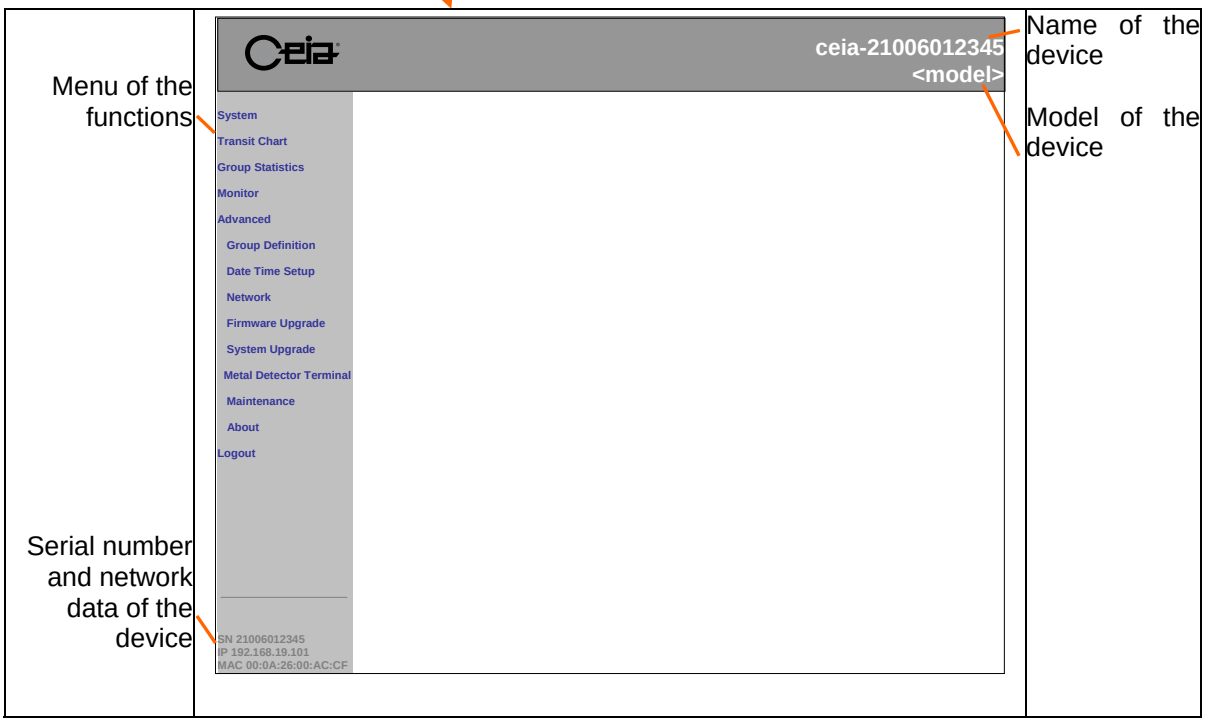
A login box appears, reporting the Metal Detector name and the Network Hostname of the device.



### 1.2.2.3 Logging in the device

Type the Metal Detector **super user password** of the device and click "***Send***": the main page of the web server should appear.



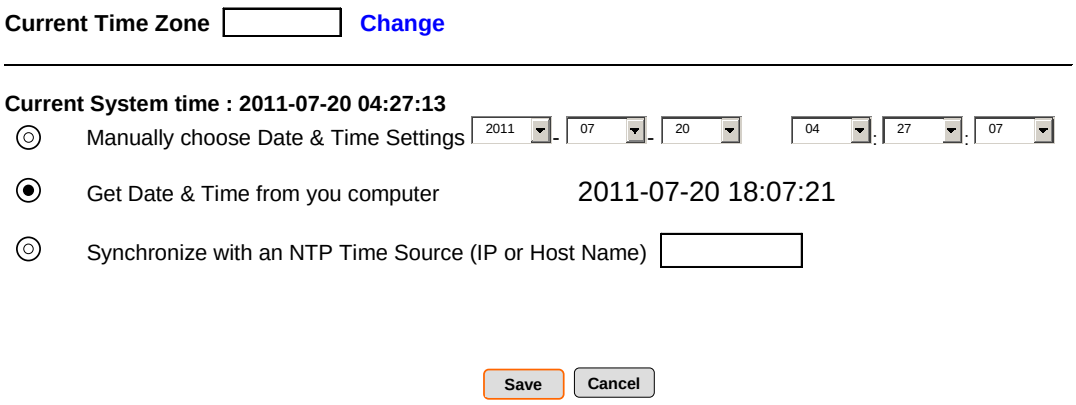

NOTE: In case of repeated error messages, stating that a wrong password has been entered, verify, in local programming, whether the baud rate setting of the device is 57600 (BR parameter).

### 1.2.3 Configuring The Device

#### 1.2.3.1 Date and Time Setup

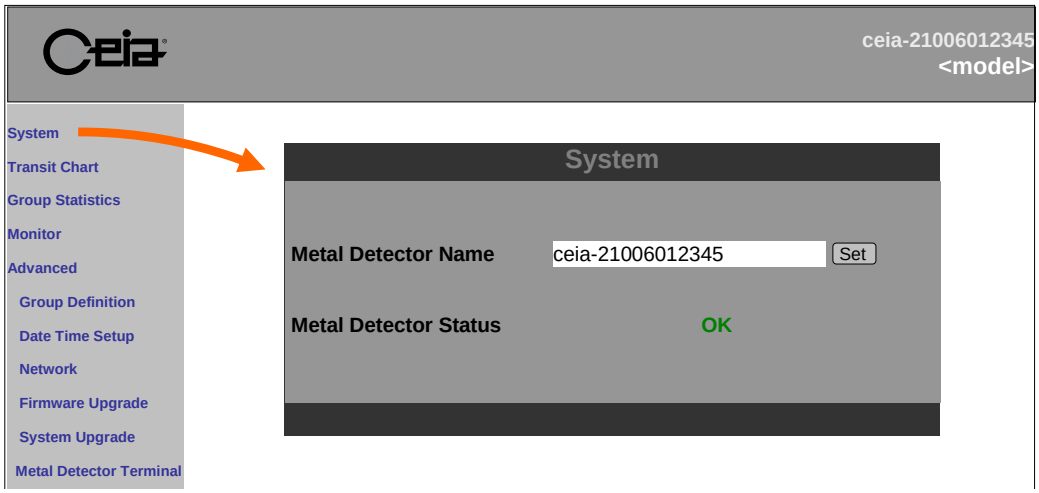
The first time the device is accessed entering the date and time is requested: the page ***Date Time Setup*** is automatically open.
Select your Time Zone or set the correct Date and Time: this can be done manually, using the setting of the computer or synchronizing with a time source, if available (enter its static IP or its Hostname, in DHCP mode only) .

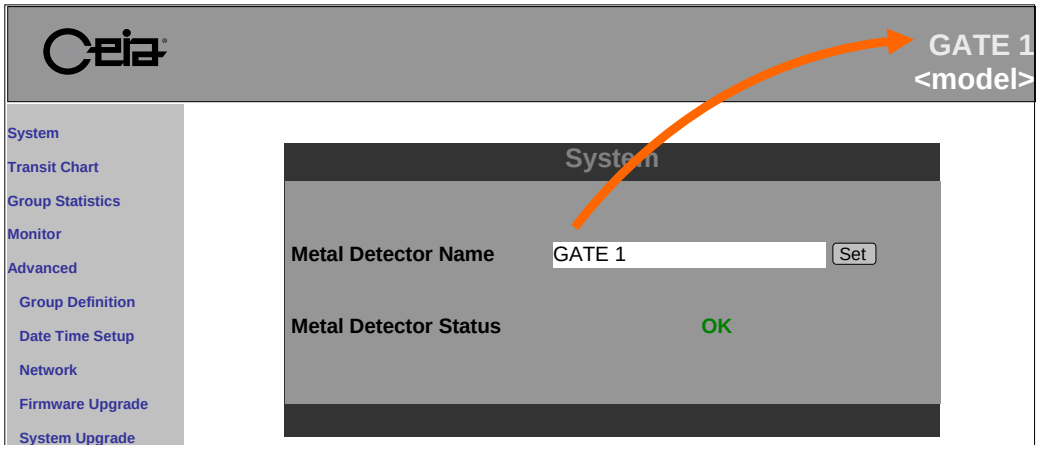
Press ***Save*** to confirm.



### 1.2.3.2 Device Name Setup

If you prefer a mnemonic name for the unit, instead of the default “CEIA-<SerialNumber>”, open the ***System*** page, set the desired device name and then click “***Save***”. The new device name will appear on the upper right corner of the window.



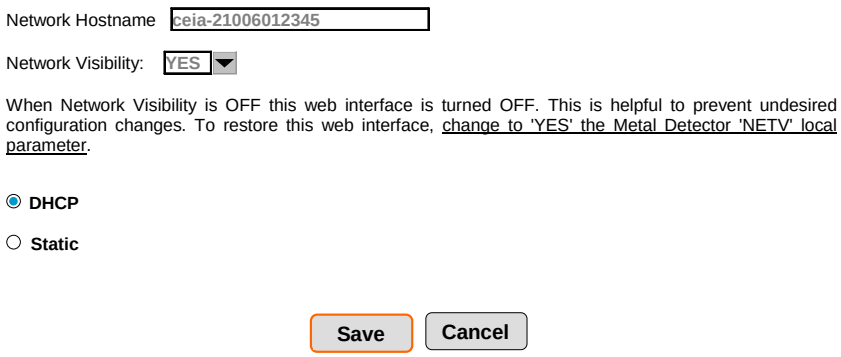



### 1.2.3.3 Network Data Setup

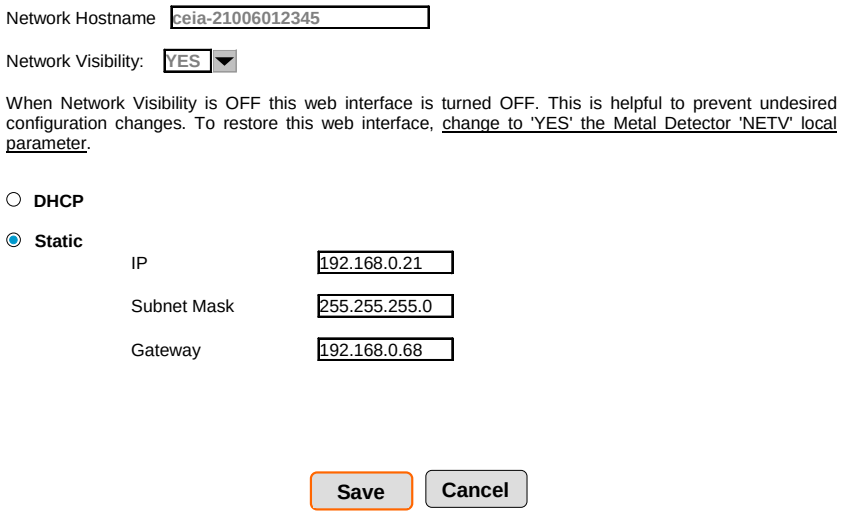
Open the ***Network*** page and set the network data. The network data (IP address, subnet mask and default gateway) can be automatically assigned using DHCP protocol or manually assigned by entering static IP address, subnet mask and default gateway to the Metal Detector.

NOTE: this page allows to replace the default Hostname with a mnemonic string.

Using DHCP no changes are required: press ***Save*** to confirm.
If desired, change the Hostname: a system reboot must be carried out: wait until the reboot phase is completed, then access the unit again by entering the new hostname in the URL field.




If static addresses are used, click on ***Static*** and enter the network data. Press ***Save*** to confirm. A new setting of the IP address is automatically updated as ***Save*** button is pressed and the page is redirected to the login box. If the hostname has been modified, a system reboot must be carried out: wait until the reboot phase is completed, then access the unit again by entering the new IP address in the URL field.

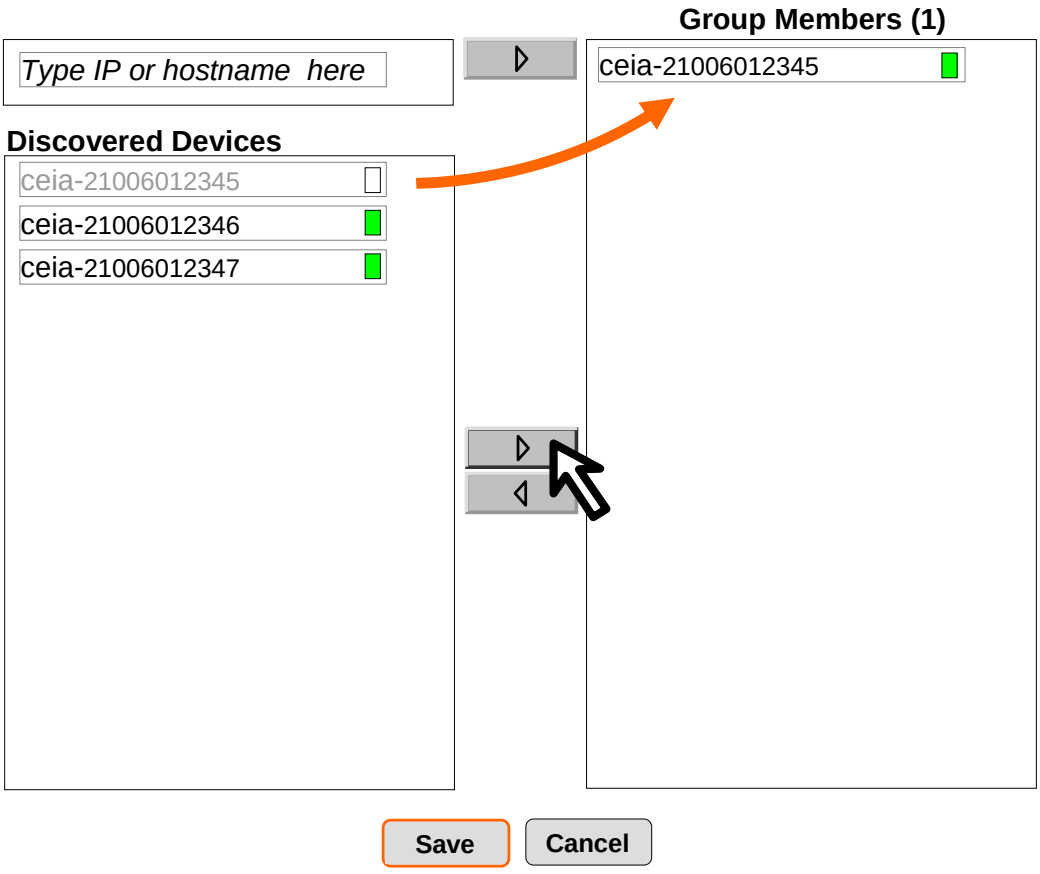


### 1.2.4 Definition of the group(s) the CEIA devices belong to

Open the ***Group Definition*** page:

The left box lists all devices currently online through the net.
To include a device in the group, select it in the left box and click on the right arrow button: it will move to the right box.
To remove a device from the group, select it in the right box and click on the left arrow button: it will return to the left box.
Use CTRL key to select more than one device.
If a device is currently off line, for instance it is switched off or not connected to the LAN, enter its IP address or Hostname (using DHCP protocol only), if known, in the upper left field "*Type IP or hostname here*".
Press ***Save*** to confirm.

**NOTE** The status of the devices included in the group will be displayed on the Monitor page.



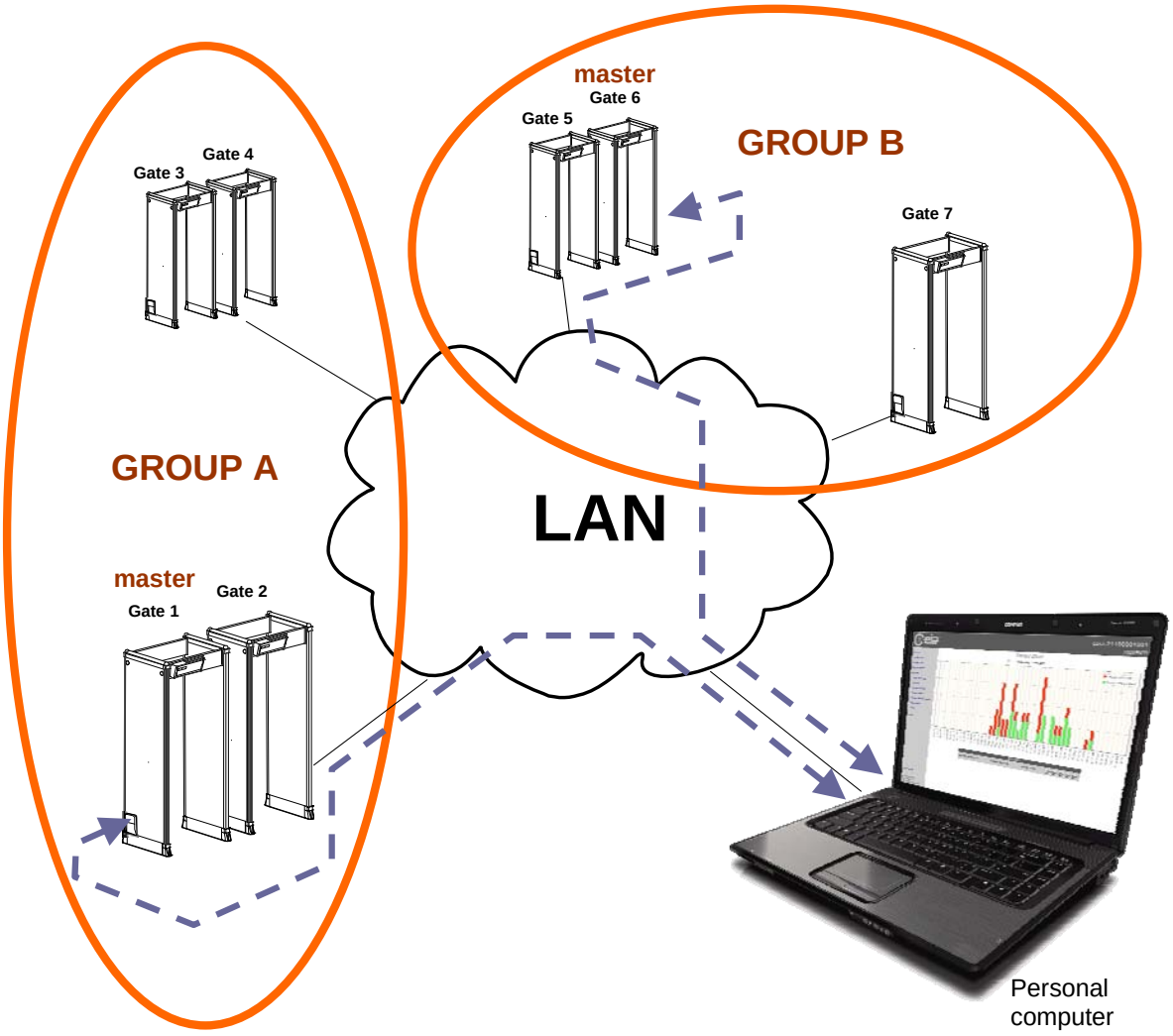
### 1.2.4.1 Master unit for connecting a group

**ATTENTION!**
The group definition is made on the web server of the device currently connected.

Once the group has been defined on the first device, only the Monitor page of that unit will be populated with the icons representing the status of the entire group.
In that condition, the web servers of the other units of the group remain undefined.

**If the status of the devices included in a group will be controlled by connecting always the same "master" unit, the group can be defined only on the web server of that unit.**

Otherwise, the same group definition must be repeated on all units used to monitor the group.



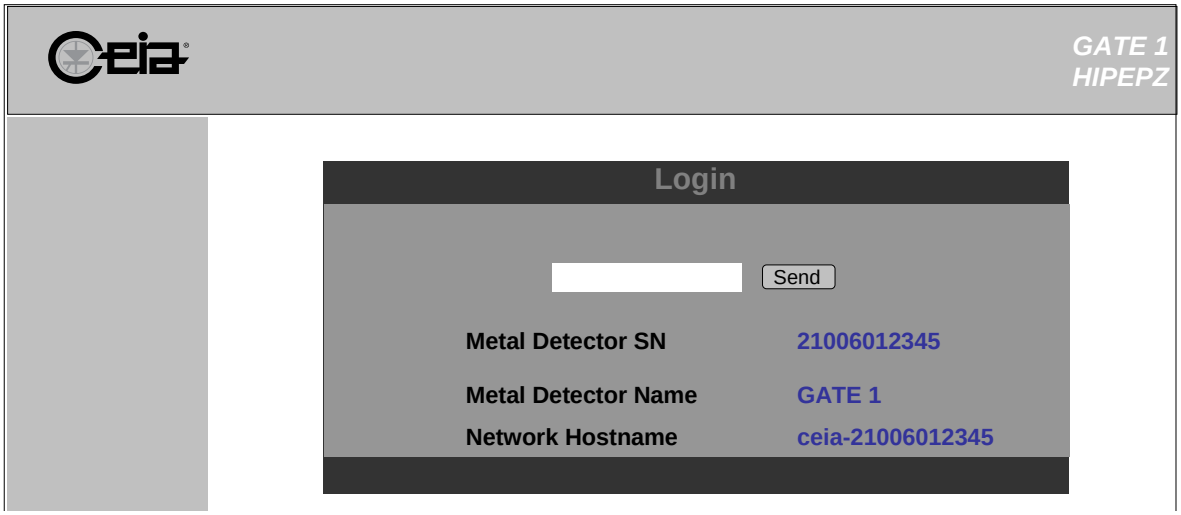

System layout with two distinct groups.

In this example an access "master" device is defined for each group: the web server of the master unit is used to control all the units of its group.

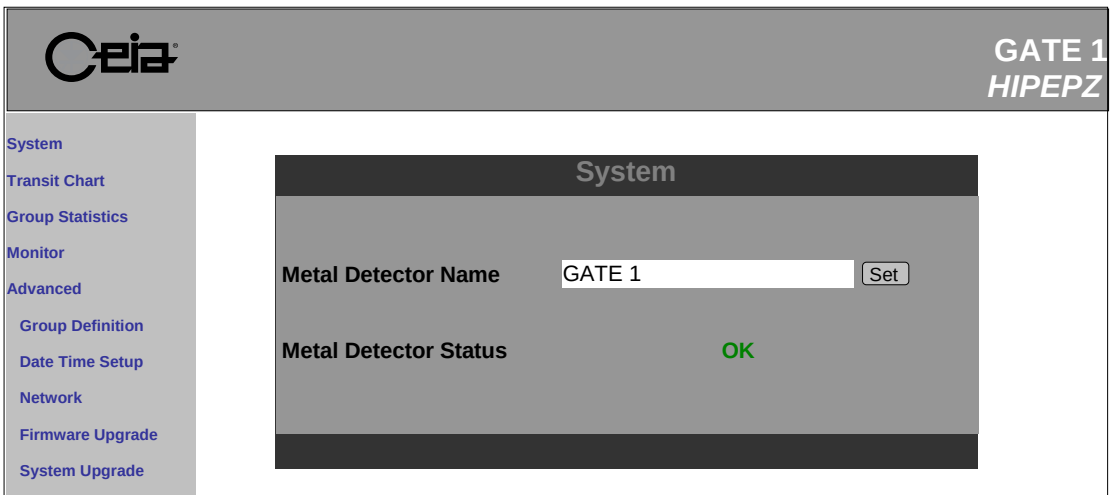
# 2 USE OF THE WEB SERVER

## 2.1 How to Access the Web Server of a device

- Run an Internet browser
- Search the available devices using the Bonjour utility: a list of the connected devices appears in a box on the left; select the desired device.
    - Otherwise, if Bonjour utility is not available, type the Metal Detector IP address (or its hostname, in DHCP mode only) in the URL field.
- A login box appears, reporting the Metal Detector name and the Network Hostname of the device. Enter a valid programming password of the WTMD:
    - using the superuser password a full access to the configuration features is provided
    - using the user password some advanced functions (submenu “Advanced”) are not available.




- Press ***SEND*** to submit the password: the device status is acquired and a summary window reporting the Metal Detector name and the device status appears.



## 2.2 Menu Window of the Web Server

The main window of the web server includes the following boxes:

**Header:**

The identification data of the connected device are displayed on the right:

- Name of the device (“GATE 1” in the example below)
- Device model

**Menu:**

A list of the available functions is located on the left.

**Network Data:**

A list of the network data of the device is located below, in the lower left corner.

## 2.3 Menu Functions available at User level

### 2.3.1 System

This function displays the Metal Detector name and its status.

**Metal Detector Name**

To change the Metal Detector name, type the new name and press ***SET***.

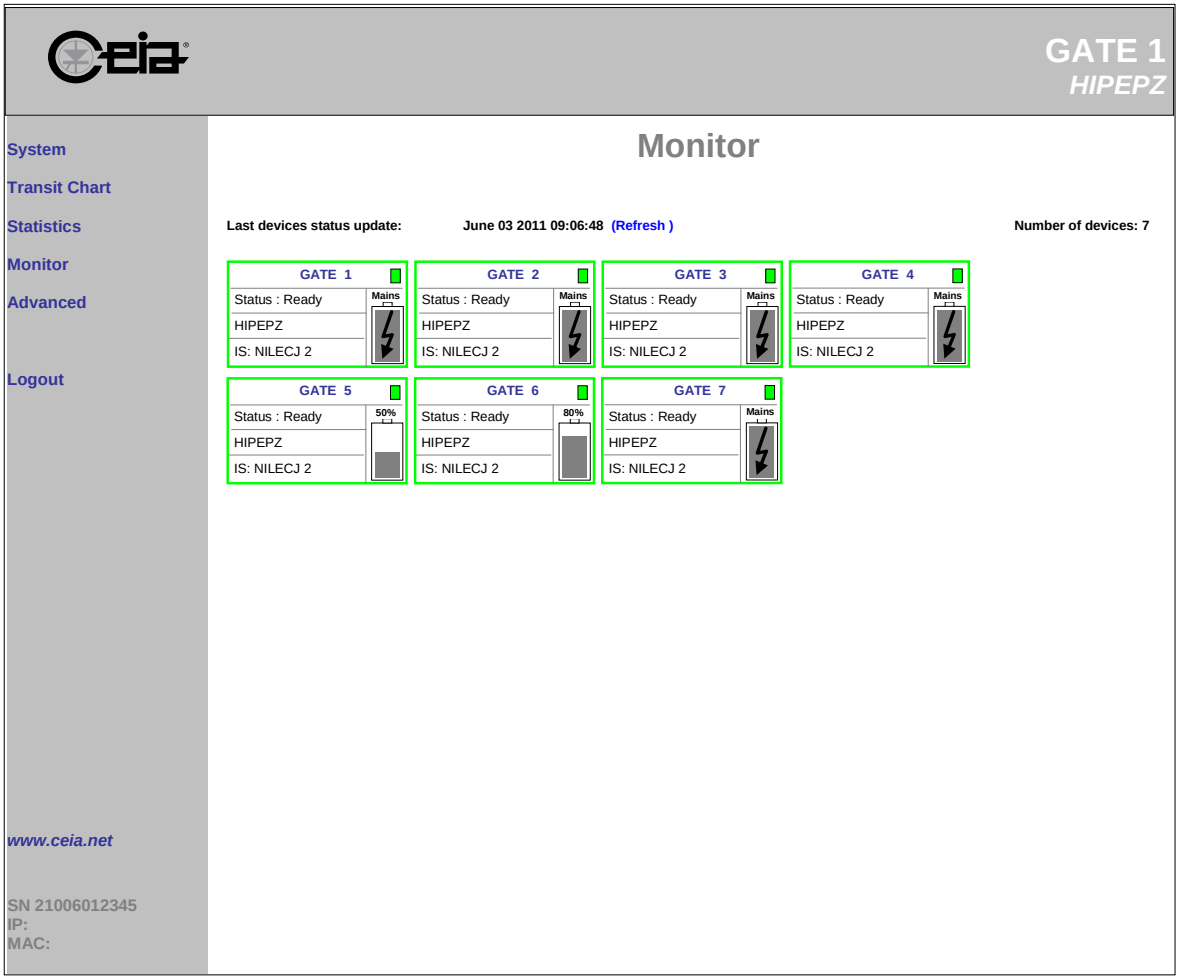
NOTE The **Set** button is disabled at user level.

**Metal Detector Status**

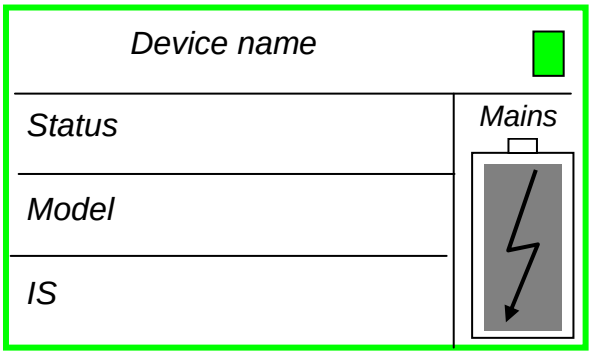
This information corresponds to the answer to SC command in remote programming

### 2.3.2 Monitor

This function displays the status of the reachable units on the Metal Detector group.



Each device is represented with a box reporting its data and status.




**Device Name**: the name of the device on the net.

**Status** : this line indicates the device status:

| | |
|---|---|
| Status: Ready | device operating correctly |
| Failure: <message> | device malfunction; the <message> text contains a self-diagnosis alert indicating the nature of the failure. |

**Model** : this line indicates the device model

**IS** : this line indicates the current setting of the International Security Level.

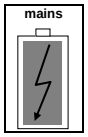
o A symbol on the right upper corner indicates the status of the device on the net:

(green box) device reachable on the net and operating properly

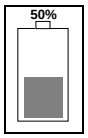
(red box) device reachable on the net in faulty condition

(gray box) device unreachable on the net

o A symbol on the right lower corner indicates the status of the device power supply:




device connected to the line

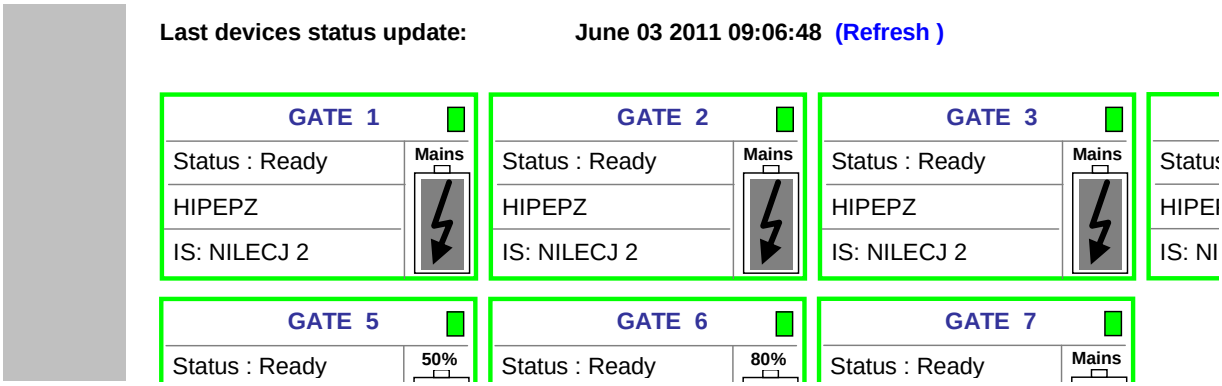



device powered by either an embedded or external emergency battery, with residual 50% of its capacity

### 2.3.2.1 Refresh of the Monitor page

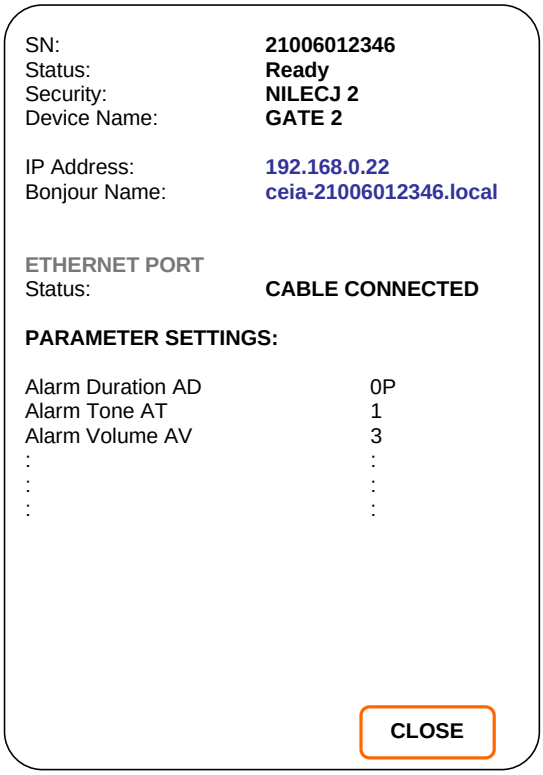
The device status is updated automatically every minute.

The status of each device is refreshed by clicking on "***Refresh*** " :



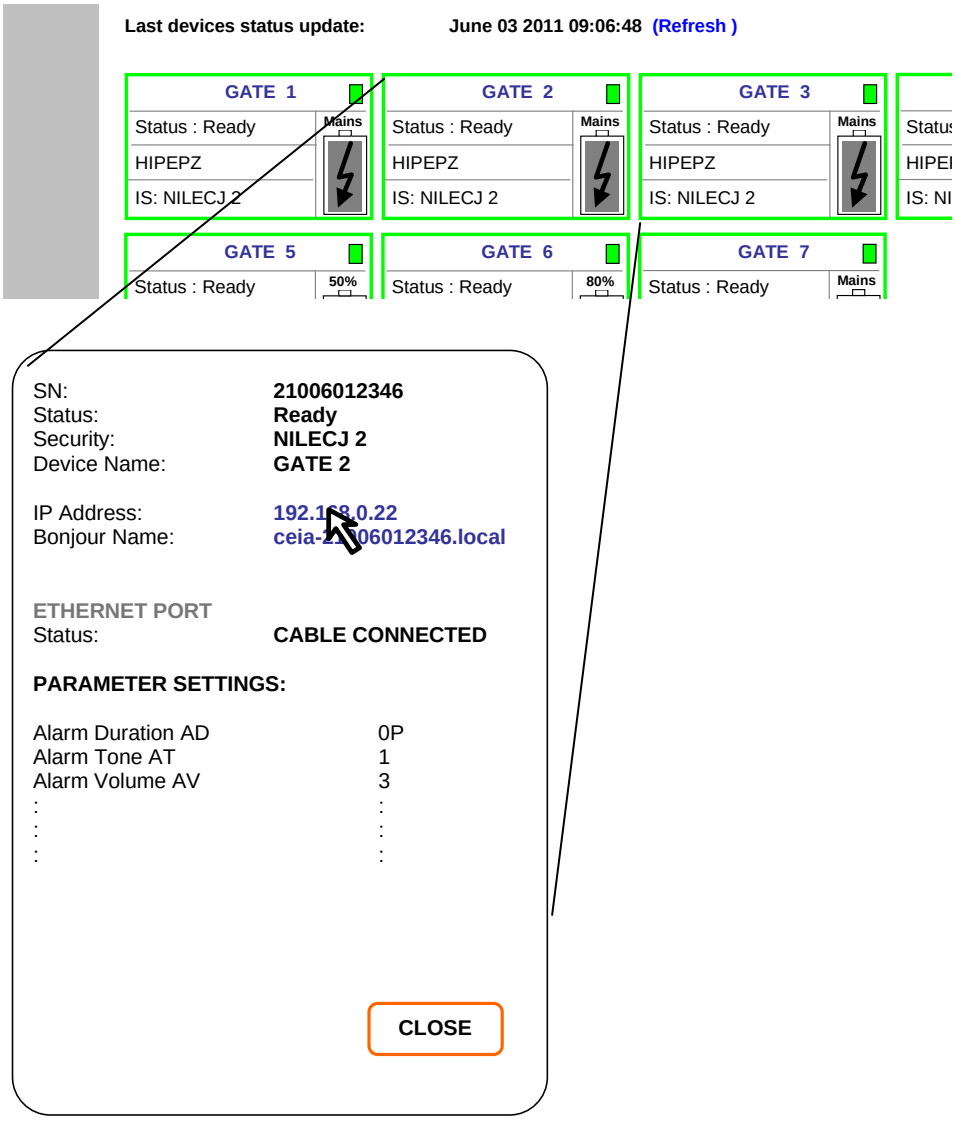

### 2.3.2.2 Detailed information of the device

A pop-up box reporting detailed information of each device appears by clicking on its box.

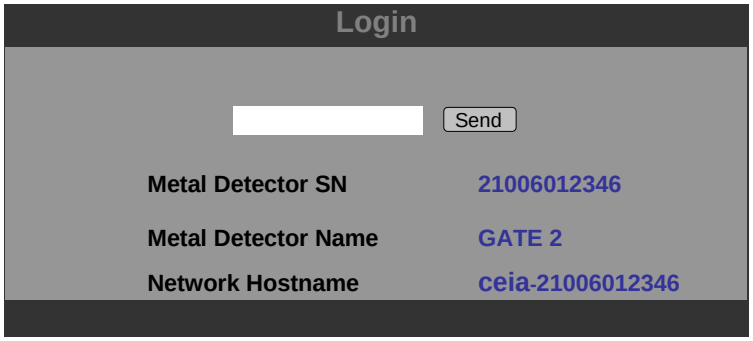


### 2.3.2.3 Accessing to a different device.

To access a different device, simply click on the IP address inside the corresponding detailed information box: a new web server page will be opened, with the same functions of the previous unit.




NOTE The user password must be entered to access the web server of this unit.




If the same group has been defined on the web server of the new unit, the Monitor page gives the same information of the previous device.

### 2.3.3 Transit Chart

This page displays a diagram of the transits occurred within a selected day.

The elapsed time is divided in 30-minute periods.

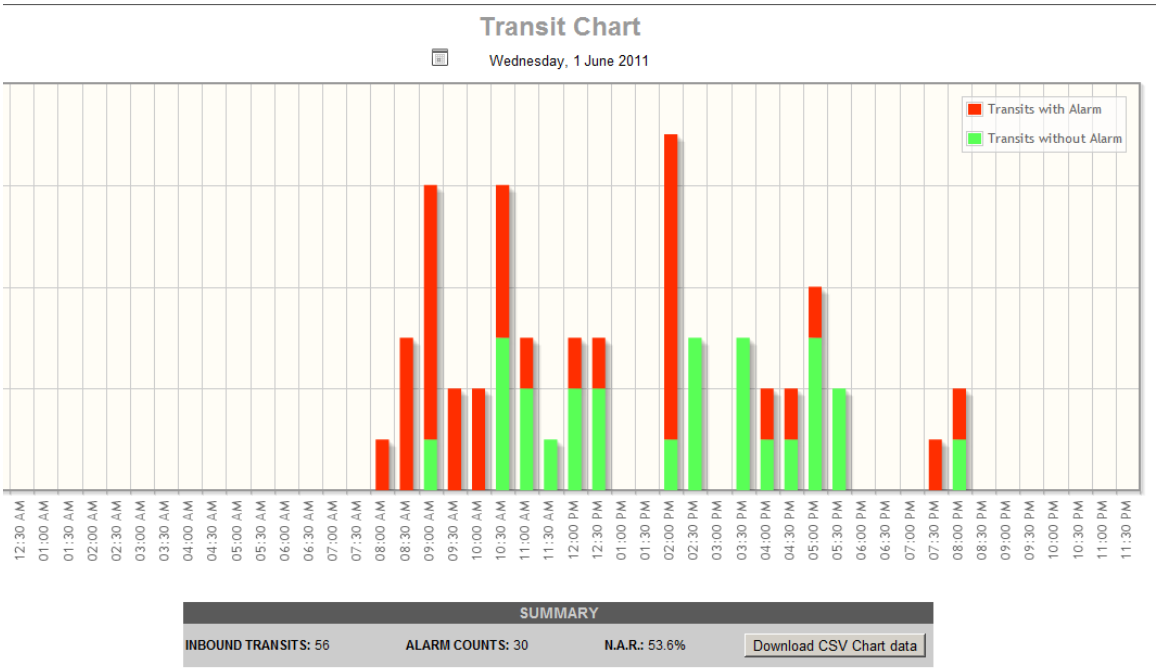
For each period the inbound transits occurred are visualized with a dual color bar: transits without alarm in green and transit with metal alarm in red. Placing the mouse on each bar, a pop-up box appears reporting all relevant numeric data.

In the lower part of the page a data summary is reported:

- **Inbound Transits**: number of the transits occurred along the inbound direction
- **Alarm Counts**: number of the transits with alarm
- **Alarm Rate (NAR)** : percentage ratio of the transits with alarm with respect to the inbound transit counter

The numeric data can be exported in a .csv file by pressing the “Download CSV Chart Data” button, on the right. The filename follows the syntax: ***<device name><data>.csv***.

The displayed day can be selected using a calendar box.



### 2.3.4 Group Statistics

This page displays a table of the transits occurred within a selected period of time in the whole group.

**From Date**
Enter in this field the starting date of the period to display.

**To Date**
Enter in this field the ending date of the period to display.

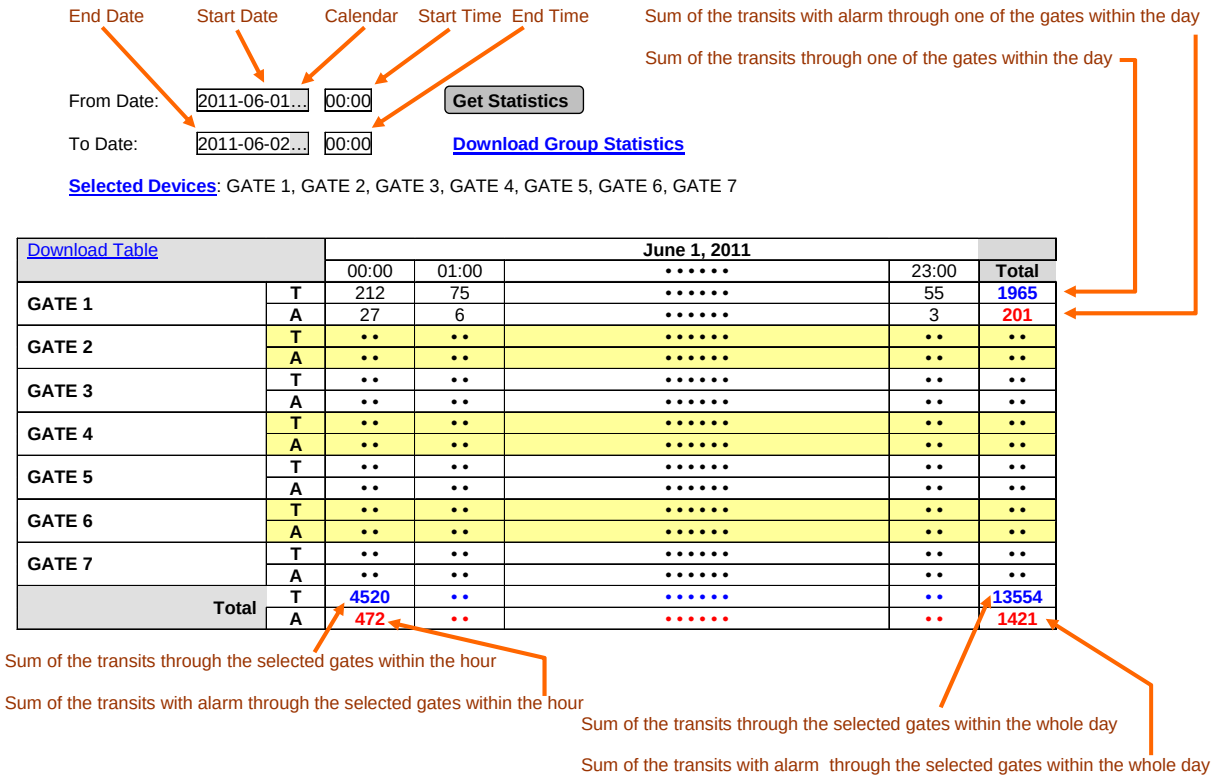
**Get Statistics**
Click here to confirm the selected period and update the table contents.

**Selected devices**
List of the displayed devices. Click on the list to select a subset of the group.

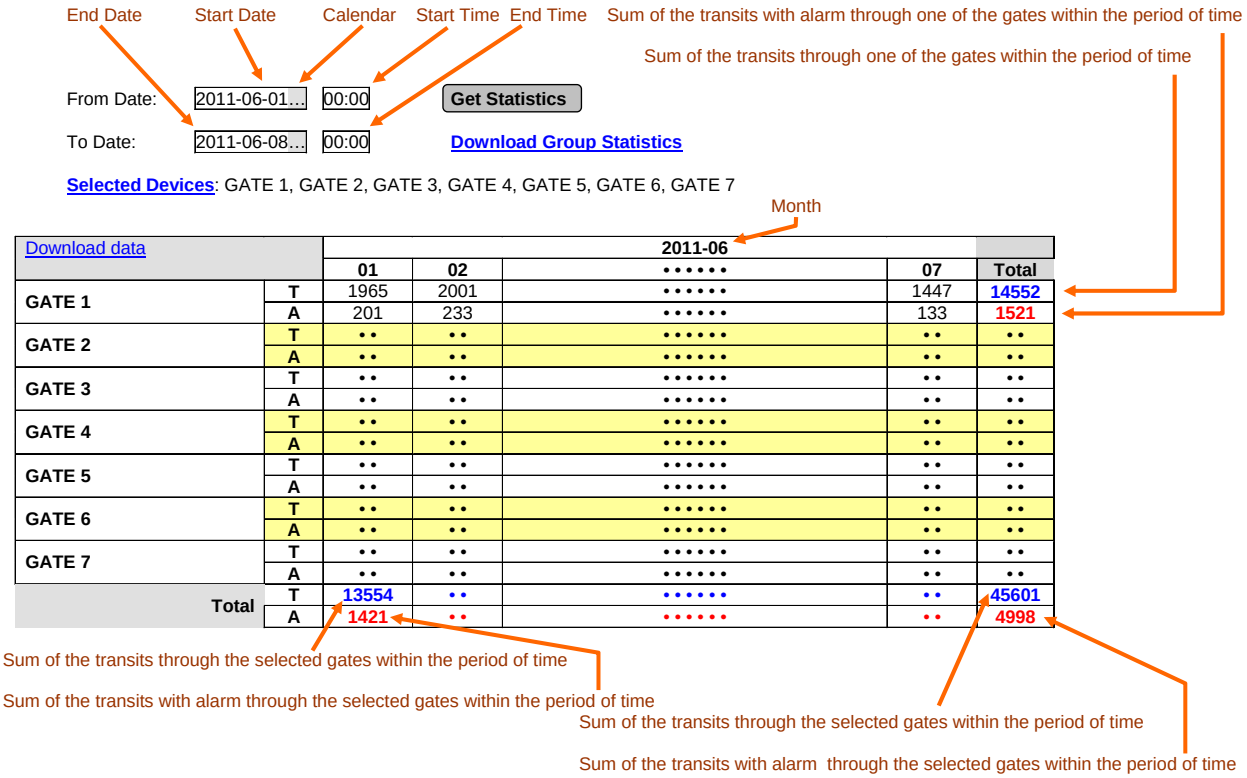
**Download Table**
Exporting of the table to a .csv file.

**Download Group Statistics**
Exporting of a .zip file containing the .csv files of all the displayed tables.

If the selected period of time is less than or equal to 24 hours (proposed automatically by the page), the table displays the total number of transits and the transits with alarm occurred through each unit of the group, with a one hour step, and the total by hour, by device and for the selected devices.



If the selected period of time is higher than 24 hours , the table gives the same information, but with a one day step.



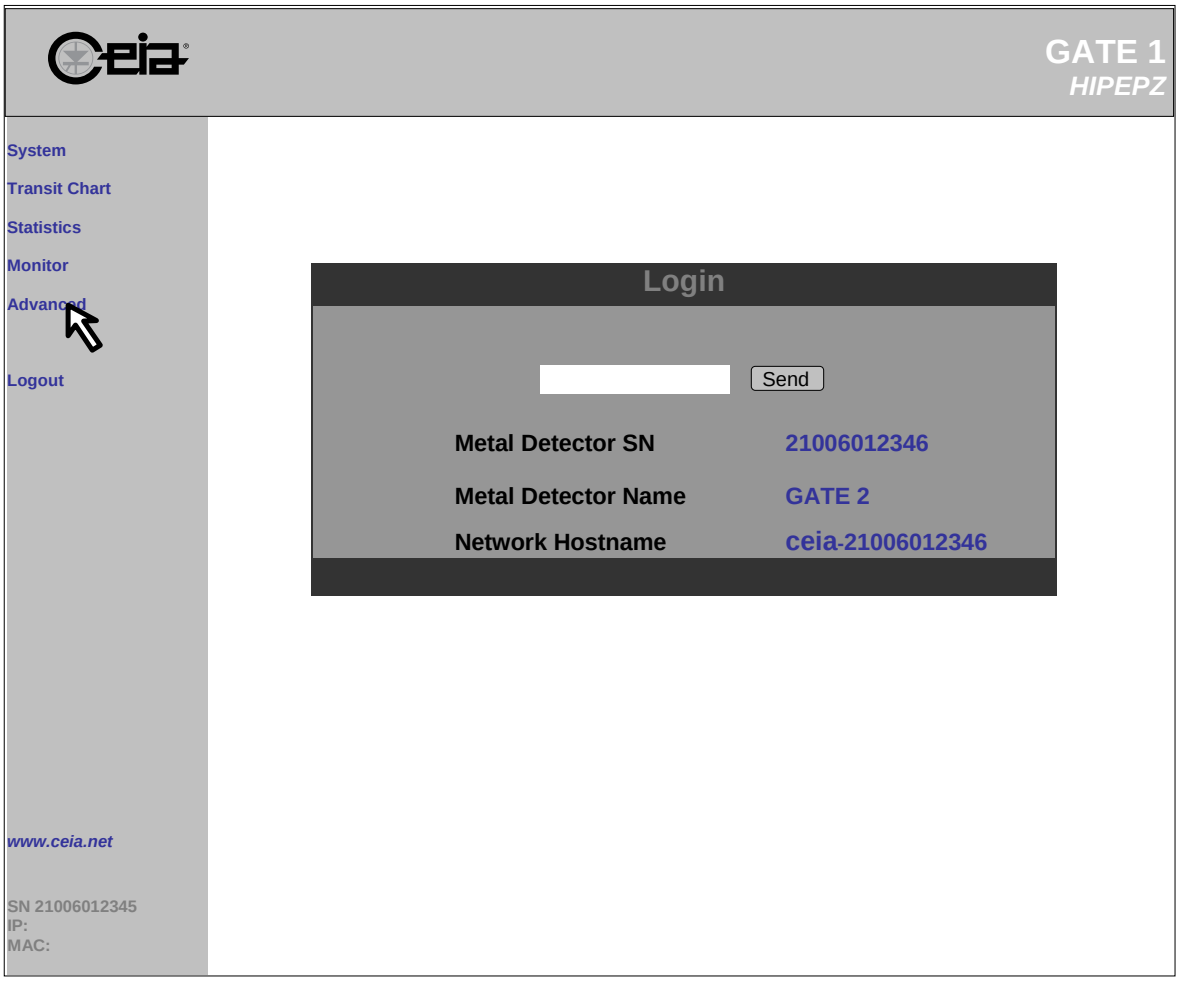

| Download data | | 2011-06 | | | | |
|---|---|---|---|---|---|---|
| | | 01 | 02 | •••••• | 07 | Total |
| GATE 1 | T | 1965 | 2001 | •••••• | 1447 | 14552 |
| | A | 201 | 233 | •••••• | 133 | 1521 |
| GATE 2 | T | •• | •• | •••••• | •• | •• |
| | A | •• | •• | •••••• | •• | •• |
| GATE 3 | T | •• | •• | •••••• | •• | •• |
| | A | •• | •• | •••••• | •• | •• |
| GATE 4 | T | •• | •• | •••••• | •• | •• |
| | A | •• | •• | •••••• | •• | •• |
| GATE 5 | T | •• | •• | •••••• | •• | •• |
| | A | •• | •• | •••••• | •• | •• |
| GATE 6 | T | •• | •• | •••••• | •• | •• |
| | A | •• | •• | •••••• | •• | •• |
| GATE 7 | T | •• | •• | •••••• | •• | •• |
| | A | •• | •• | •••••• | •• | •• |
| Total | T | 13554 | •• | •••••• | •• | 45601 |
| | A | 1421 | •• | •••••• | •• | 4998 |

### 2.3.5 Advanced Menu

#### 2.3.5.1 Access level

This submenu is available only at superuser level.

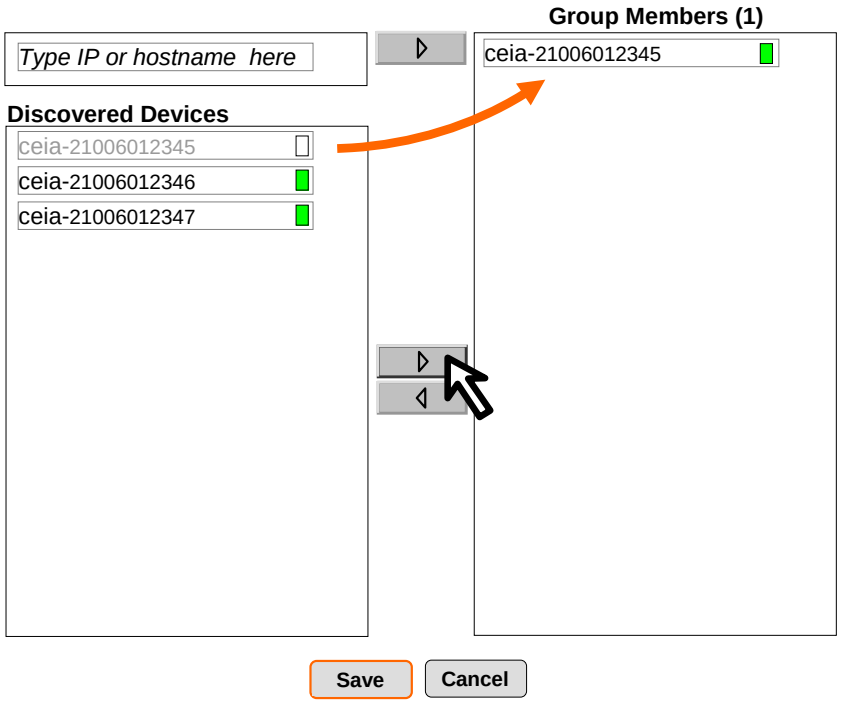
If the device has been accessed at user level, the advanced menu can be opened by clicking on Advanced: a login box will appear. Enter the super user password: the full menu will appear on the left.



### 2.3.5.2 Group Definition

**Function:**
Defining a group of devices as a sebset of the networked units.

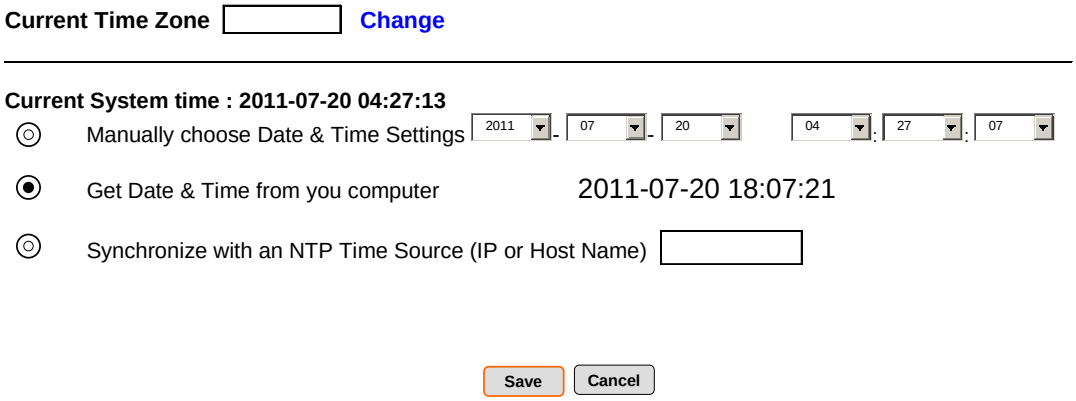
The left box lists all devices currently online through the net.
To include a device in the group, select it in the left box and click on the right arrow button: it will move to the right box.
To remove a device from the group, select it in the right box and click on the left arrow button: it will return to the left box.
Use CTRL key to select more than one device.
If a device is currently off line, for instance it is switched off or not connected to the LAN, enter its IP address or Hostname, if known, in the upper left field "*Type IP or hostname here*".
Press ***Save*** to confirm.



### 2.3.5.3 Date and Time Setup

Select your Time Zone or set the correct Date and Time: this can be done manually, using the setting of the computer or synchronizing with a time source, if available (enter its static IP or its Hostname, in DHCP mode only) .

Press ***Save*** to confirm.




NOTE The first time the device is accessed entering the date and time is requested: the page ***Date Time Setup*** is automatically open.

### 2.3.5.4 Network

**Function:**
Setting of the Metal Detector Network Hostname and the network data.

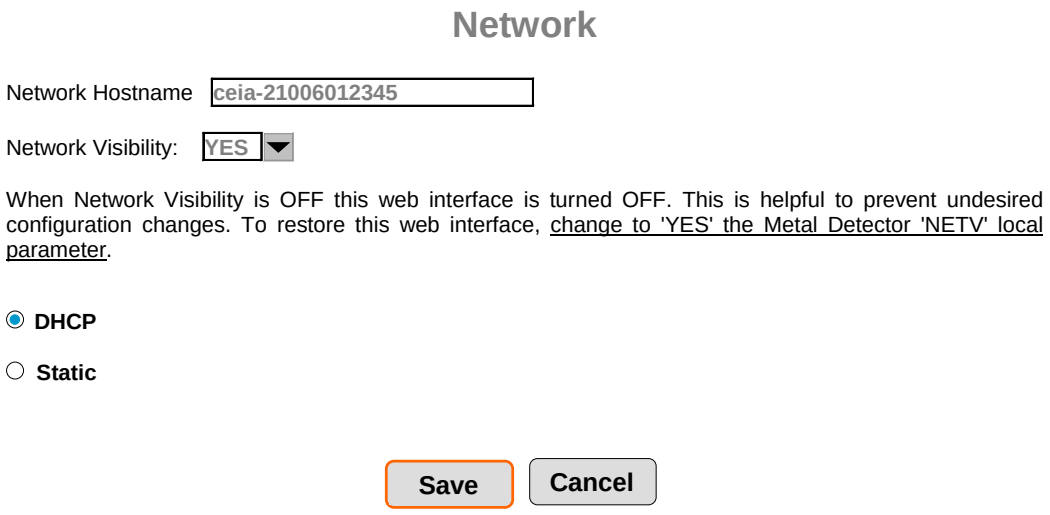
**Network Hostname**
If desired, change the Hostname and press *Save* to confirm: a system reboot must be carried out: wait until the reboot phase is completed, then access the unit again.

**Network Visibility**
The default value of this field is “YES”. Set this field to NO if you want to prevent access to the unit via web.

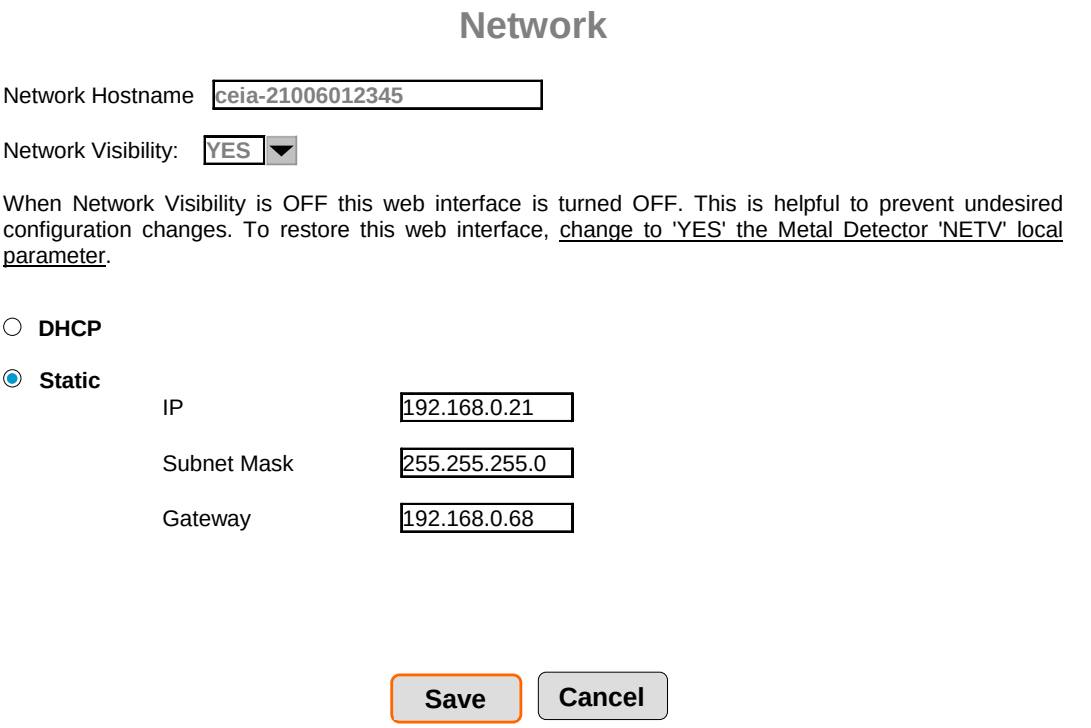
**ATTENTION!**
This selection puts the unit off-line and unreachable. It will refuse the access to its web server and will disappear from the Monitor page of the other units of the group.
To restore this condition, it is necessary to set the parameter NETV to YES, by local or remote programming.

**Network Data**

Using DHCP no network data are required.



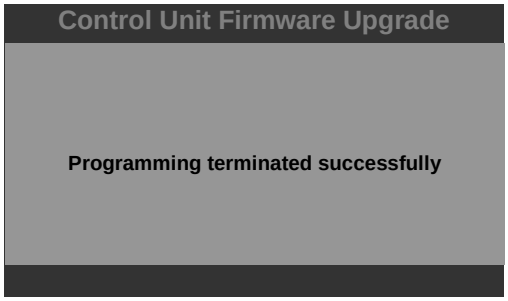
If static addresses are used, click on ***Static*** and enter the network data. Press ***Save*** to confirm. A new setting of the IP address is automatically updated as ***Save*** button is pressed and the page is redirected to the login box. If the hostname has been modified, a system reboot must be carried out: wait until the reboot phase is completed, then access the unit again .



### 2.3.5.5 Fimware Upgrade

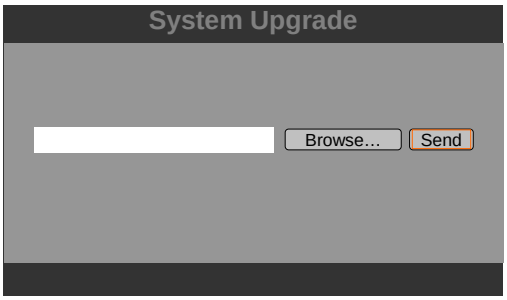
**Function**: upgrade of the WTMD firmware.

- Browse the upgrade file ( . crp extension) and press SEND.
- Wait for the completion of the data transfer. ***ATTENTION: do not perform any other operation during the upgrade process!***
- At the end a confirmation message appears:




### 2.3.5.6 System Upgrade

**Function:** upgrade of the WTMD web server.




- Browse the upgrade file ( . rar extension) and press SEND.
- Wait for the completion of the data transfer. ***ATTENTION: do not perform any other operation during the upgrade process!***

### 2.3.5.7 Metal Detector Terminal

**Function**: remote programming of the WTMD.

A command line appears, with an output box which displays the answer of the WTMD.
Press ***Send*** button to execute a command.
Press ***Clear*** button to erase the output box.

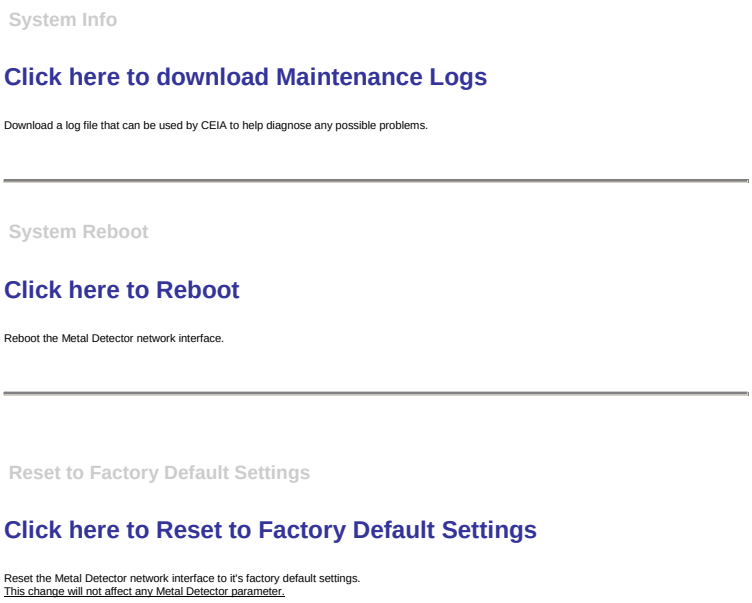
### 2.3.5.8 Maintenance

**Functions**: Request of a log file to be sent to CEIA service department; Reset to factory setting; System reboot

**Maintenance Logs**
Click on the link *Click here to download Maintenance Logs* to download the file and send it to CEIA. The file has the name: “logfiles.ceia”.

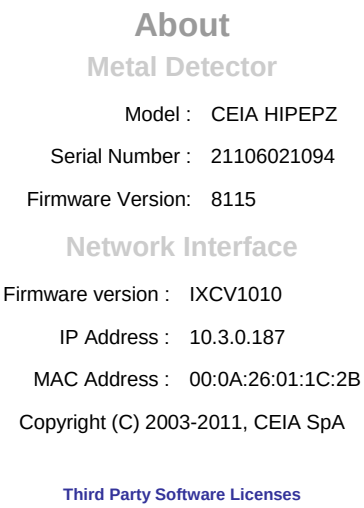
**System Reboot**
Click on the link *Click here to Reboot* to reboot the system .

**Reset to factory default settings**
Click on the link *Click here to Reset to Factory Default Settings* to reset the system to the factory settings.




### 2.3.5.9 About

**Function**: visualization of the system version and third party software licenses.



### 2.3.6 System Recovery

A special utility (***CEIA System Recovery*** ) is available for recovering the system, by using an image of the system.

**Requirements**

- A personal Computer with available one USB port and one RS232 serial port.
- A serial cable fitted with 9-pole connectors (CEIA code 3805)
- A micro USB Type B connector to USB Type A connector cable (CEIA code 51625).

**Installation**

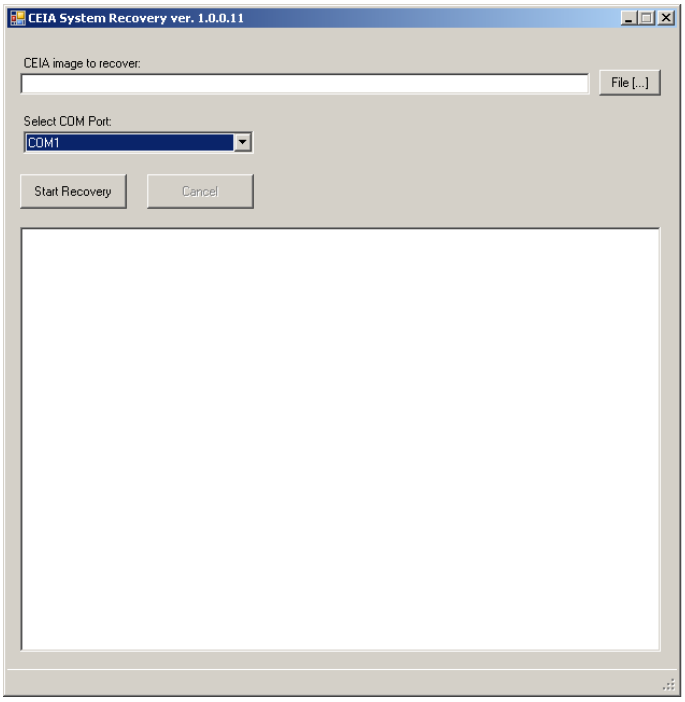
Extract the ***SystemRecoveryPackage*** and start the installation wizard running **setup.exe**.

At the first run additional components will be installed.

Please launch the application a second time to start the recovery application.

**Recovery Procedure**

- Connect the PC to the Serial communication port (PS/COM) and to the micro USB port of the detector, using the cables above mentioned.
- Start the ***CEIA System Recovery*** program, by clicking on its icon.
- Select the COM port used to connect the Metal Detector.
- Browse the system image ( . rar or .bin extension)
- Press ***Start Recovery*** and follow the program indications (the program will request to switch off the Metal Detector and turn it on again).




- At the end the program provides a message stating the successful data transfer completion.
- **Switch off the Metal Detector and turn it on again to complete the procedure!**

***Web site: www.ceia.net***