



HEALTH PLUS

MONITORING, MEASUREMENTS, EVENTS & ALARMS

HealthPlus	2
Overview	2
Monitoring	2
Inputs	2
Active.....	2
Passive.....	3
Missing	3
Save & clear reference	3
Speakers	4
Active.....	5
Headroom	5
Impedance.....	5
Amplifiers	5
Ready.....	5
Temperature	5
Firmware	6
Mains.....	7
Measurements	8
Inputs	8
Outputs	8
Amplifiers	9
Mains.....	9
Hide and remove all	10
Events and Alarms	10
Event History	10
Active Events.....	10
Events reporting	11

****This application note refers to the version of ArmoniaPlus 1.3.1**



HEALTHPLUS

OVERVIEW

HealthPlus, replaces the software's previous 'Events' tab, giving sound engineers and integrators a streamlined monitoring environment of all elements in a given sound system with improved communication, control and reporting ensuring even better performance than ever before. HealthPlus updated display gives engineers a complete suite of system diagnostic controls to monitor the health and effectiveness of any sound system in real-time, it can be used with a touring PA or in fixed installations like cinemas, airports, theme parks, etc. In addition to input monitoring for power amplifiers, speakers, and other connected devices, the system is also capable of measuring system health indicators such as headroom, temperature, voltage, and impedance to ensure optimal performance of all elements and will automatically alert users in case of malfunctions or element failures. Engineers can also now utilize the Event History function to track uploaded programs, user logins, and diagnose any long-term system issues. Finally, HealthPlus has improved reporting, giving users the ability to track multiple indicators at once over an hour time log period for more detailed system monitoring.

MONITORING

INPUTS

In this section it is possible to monitor the inputs channels, their quantity in total and are divided into Active, Passive and Missing categories. (Figure 1)

ACTIVE

These are the inputs that are playing, independent of the format. We can monitor the total number of input channels for:

- **Dante / AES67**
- **AES3** (Digital)
- **Analog**

Furthermore, in status there is the possibility to ignore one or more channels, so that HealthPlus does not always signal an alarm. e.g. when you mute the mixer master or between tracks using a media player.



PASSIVE

These are the signals present in the backup strategy, ready to become active as needed.
e.g. For input redundancy, when we lose a digital input, and have an analog signal in the backup strategy.

MISSING

Signals lost since you saved the reference.

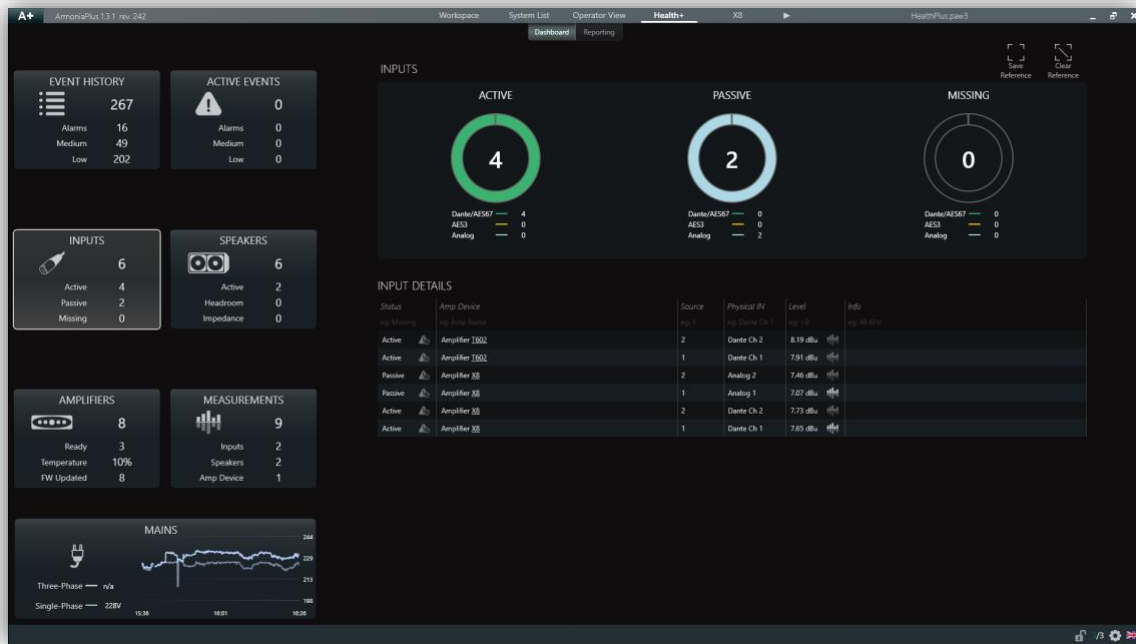


Figure 1- Inputs

SAVE & CLEAR REFERENCE

With HealthPlus it is possible to monitor the amount of input signals and you can also save a reference so that ArmoníaPlus sends you an alarm when this reference changes. By clicking on save reference, (4/4), which would be the quantity of channels present / the quantity of reference channels.

E.g. when you lose one or more input channels. A recommended time to activate this reference is at the end of a sound check or at the end of a installation. (Figure 2)



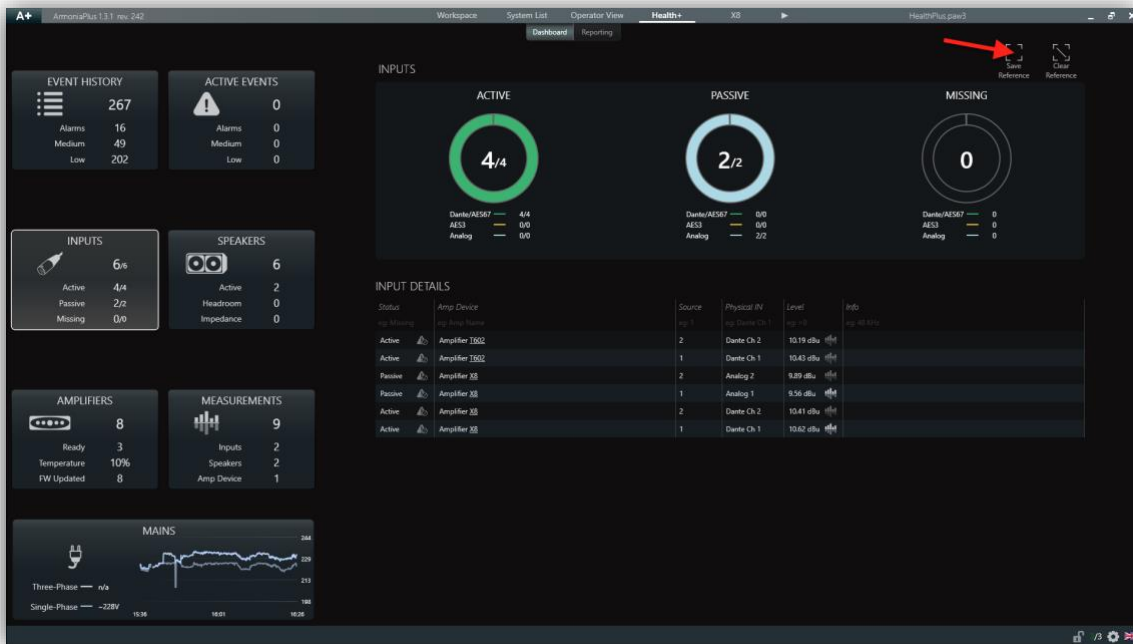


Figure 2 - Save and clear reference

SPEAKERS

In this section it is possible to monitor the status of the speakers, which amplifier they are connected too, which output they are connected too, ways description, overall output gain, headroom and impedance of the speaker. (Figure 3)

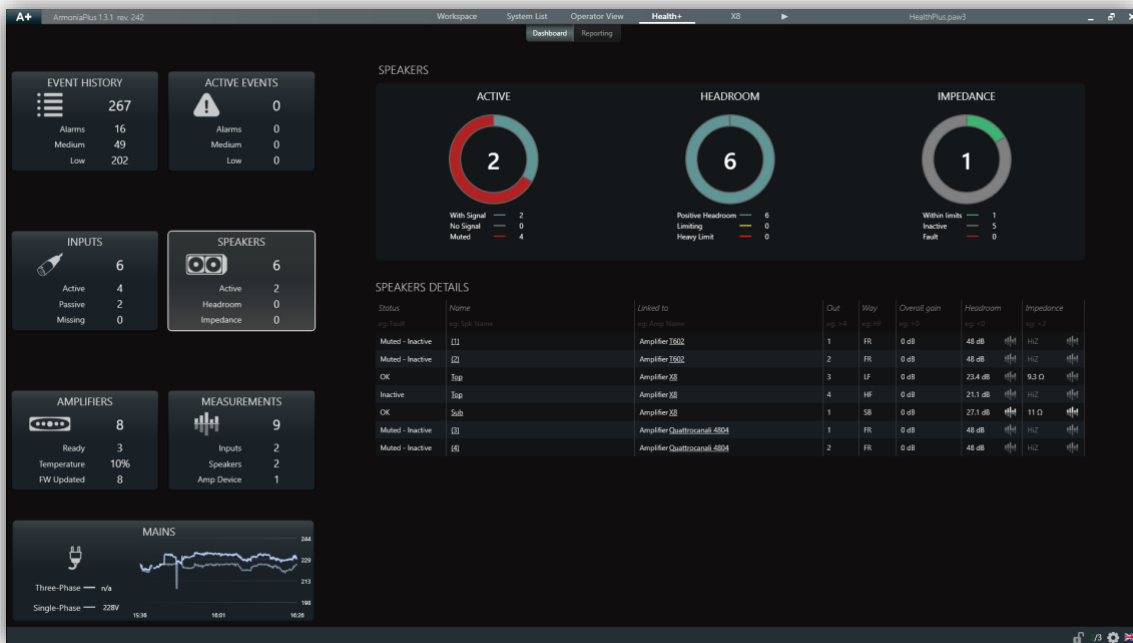


Figure 3 - Speakers



ACTIVE

In active, we can monitor the speaker **with signal**, **no signal** (without signal), and **Muted**.

HEADROOM

In headroom, we could monitor:

- **Positive Headroom:** *This means that you still have headroom to increase the volume in case you need it.*
- **Limiting:** *You have reached the limit of the loudspeaker! We recommend do not increase the volume more, if you need more SPL increase the number of speakers or select a more powerful loudspeaker.*
- **Heavy Limit:** *It means that the channels are limiting more than 12 dB of gain reduction. (This could be because you have an under-sized system, increase the number of loudspeakers or select a more powerful loudspeaker.)*

IMPEDANCE

In this section it is possible to monitor the speakers working within the nominal threshold range, which are inactive and the loudspeakers in fault.

- **Within the range:** It is based on the impedance entered in the speaker preset information (.spk3). If no value is entered, the result is always within the nominal range.
- **Inactive:** When the amplifier is not reading the impedance, it will show the last measurement made.
- **Fault:** When the measurement is out of the established nominal threshold range.

E.g. with an 8 Ω speaker, the upper limit is 4x (32 Ω) and the lower limit is 1/2 (4 Ω), so above 32 Ω and below 4 Ω , HealthPlus will send an alarm Fault.

The **Hi-Z** description appears in the X and Ottocanali Series above 400 Ω , and the T Series, Duecanali and Quattrocanali above 100 Ω .

AMPLIFIERS

In this section it is possible to monitor the status of the amplifiers by name, model, serial number, temperature and firmware. (Figure 4)

READY

In the ready category, we can monitor amplifiers **online**, **stand-by** and **offline**.

TEMPERATURE

Each amplifier model has different temperature ranges where they can work, also different points inside the amplifier where the temperature is taken to be monitored, and to simplify readings to the end customer we have opted for a new way of viewing this in percentage.



- **0% - 100%:** Is an optimal range for working.
- **100% – 150%:** Limits the outputs to reduce heat and help cooling.
- **> 150%:** The amplifier could turn off to protect itself.

FIRMWARE

In Firmware we can monitor the total number of amplifiers:

- **Updated:** That have the latest firmware available.
- **Outdated:** amplifiers that have a more recent firmware available for upgrade.
- **Not supported**

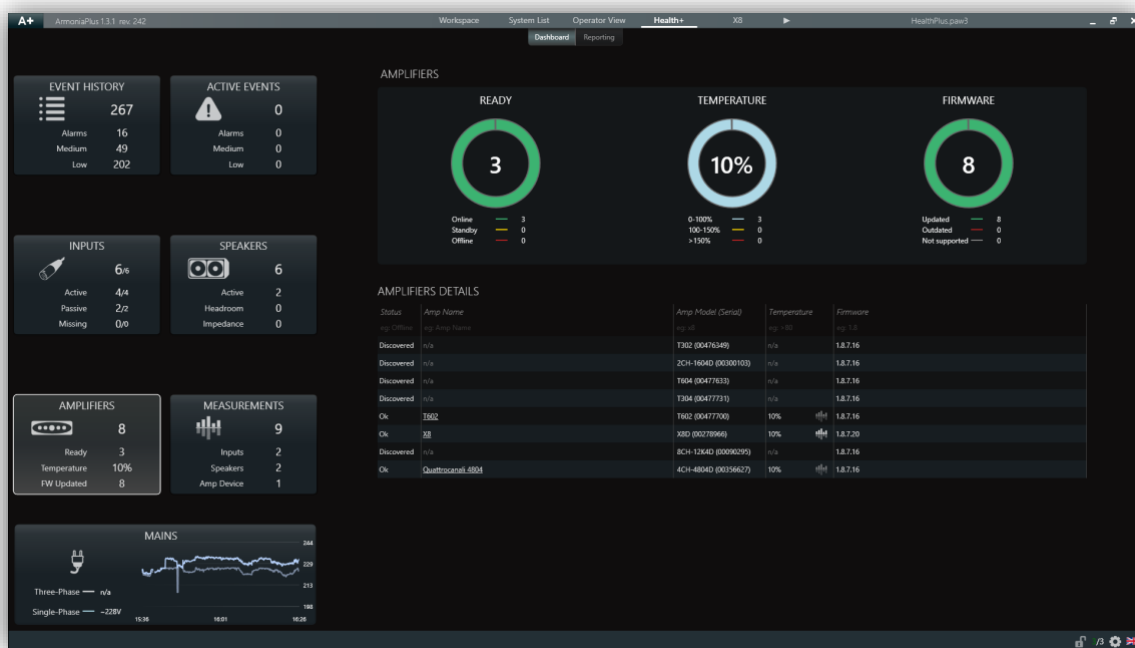


Figure 4 - Amplifiers

Status

The status of the amplifier in the 'Amplifiers' tab can be:

- **Ok**
- **Virtual**
- **Discovered:** An amplifier seen in discovery, but which has not been added to the workspace.
- **Stand-by**
- **Outdated:** Amplifiers that have a more recent firmware available for upgrade.
- **Not Supported**
- **OverTemp:** >150%



MAINS

In this section it is possible to monitor the mains of the amplifiers. (Figure 5)

- **Status**
- **Rack Name:** The rack where they are positioned on the workspace.
- **Amp device:** Their name.
- **Amp model (Serial):** The amplifier model and serial number.
- **Phase**
- **Voltage**
- **Current**
- **Power**

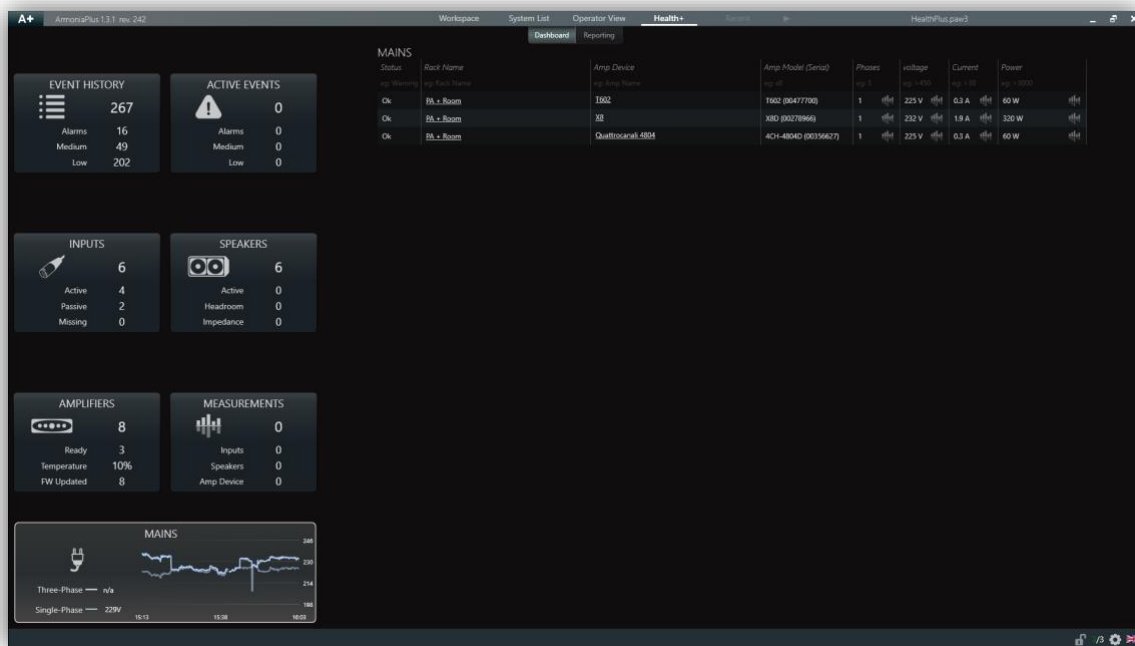


Figure 5 - Mains

Status

The status of the amplifier in 'Mains' tab can be:

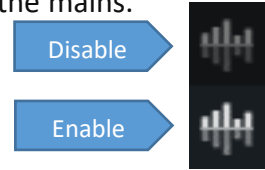
- **Ok**
- **Virtual**
- **Offline:** when we lose the connection with an amplifier or when we turn it off.
- **Warning (Phase):** when there is a phase loss.
- **Warning (Voltage):** when an amplifier deviates from the average.



MEASUREMENTS

In HealthPlus we can measure various data points of a system. These measurements can be input channels, data related to the speakers and measurements that concern the mains.

To select a measurement, click on the measurement icon.



The columns present in measurements are:

- **Remove and Show**
- **Color:** Allows you to change the color of the measurement.
- **Category, Name and Parameter**
- **Max and Min:** it indicates the maximum and minimum value of that particular measurement.
- **Cursor:** It shows you the value of where the mouse is positioned.

INPUTS

We can measure the input level in all formats, **Dante / AES67, AES3 (Digital)** and **Analog.** (Figure 6)



Figure 6 - Measurements Inputs: Dante and Analog in Backup Strategy.

OUTPUTS

We can measure the Headroom and Impedance of the speakers. (Figure 7)





Figure 7 - Measurements Speakers: Headroom and Impedance.

AMPLIFIERS

We can measure the Temperature.

MAINS

We can measure: Phases, Voltage, Current and Power. (Figure 8)



Figure 8 - Measurements: Current and Power.



HIDE AND REMOVE ALL

HealthPlus can have a maximum of 10 measurements enabled, and display a maximum of 2 different ranges at a time, it's possible to hide the measurements and delete all.

The saved measurements refer to the last hour of use.

EVENTS AND ALARMS

EVENT HISTORY

In Event History, we can see the date of the event, type of event: Device or Software, priority: low, medium or alarm, and the description of the event. We can also export them to a file (.xlsx), and remove them all. (Figure 9)

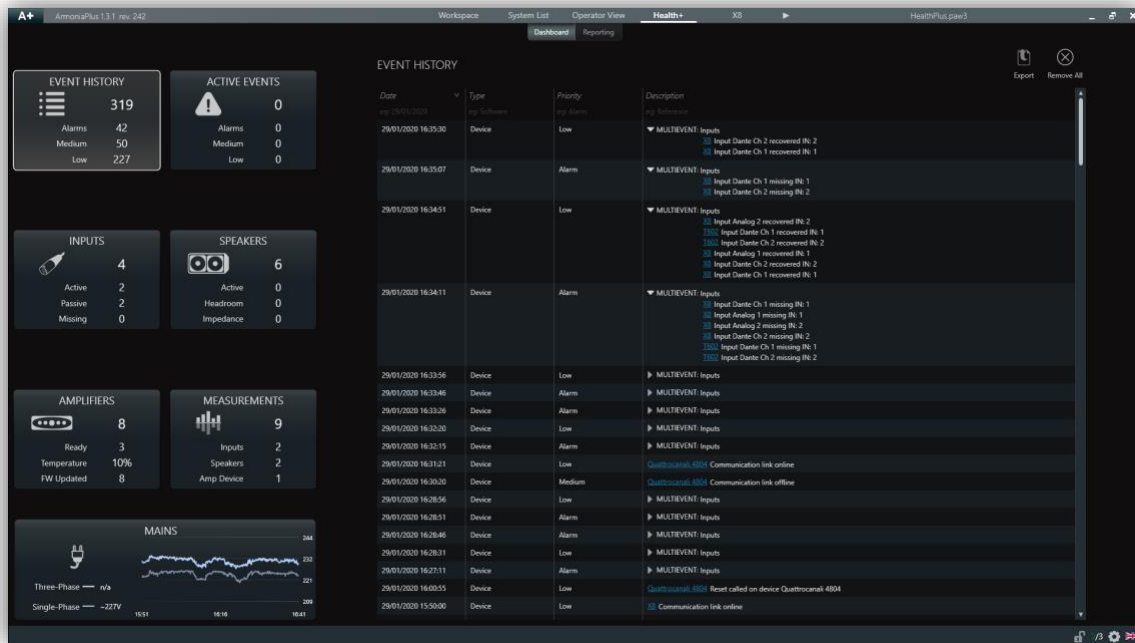


Figure 9 - Event History

ACTIVE EVENTS

In active events we can see the events and alarms that are happening in the system. Also, we can see the example of a loss in audio channels, we see exactly how many channels were lost, which input format, amplifier and channel, so that we can be precise in solving the problem. (Figure 10)



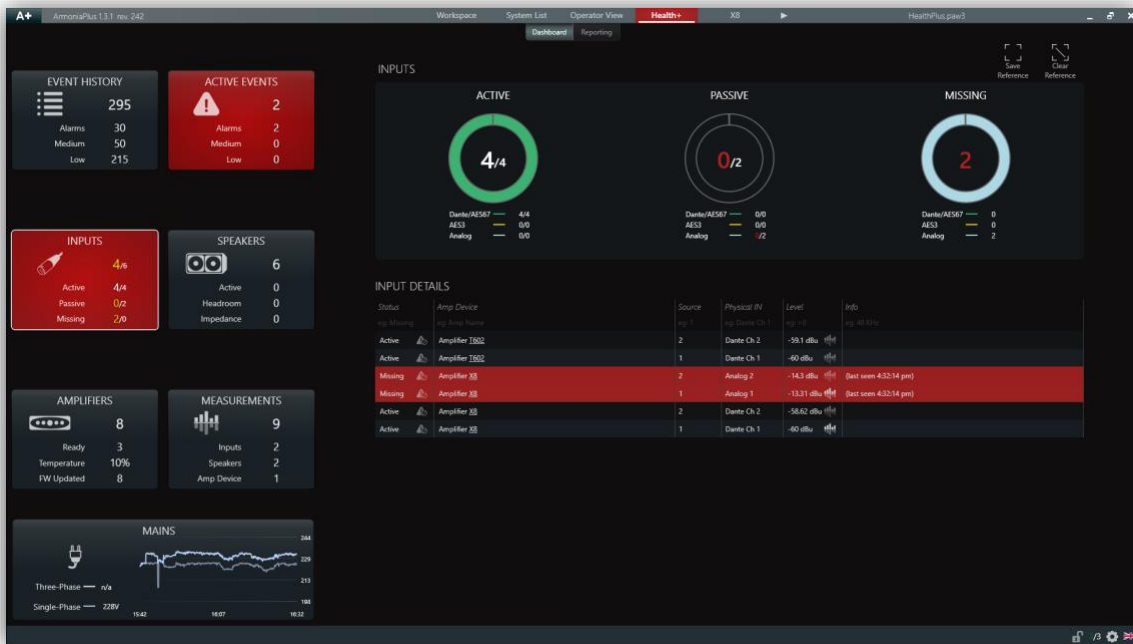


Figure 10 - Active Events

EVENTS REPORTING

In events reporting you can enable various Users to receive an email report sent by HealthPlus every hour. You can choose the language in which to receive the report, whether to receive the events of a specific project, or global of any project loaded, and also choose whether to receive only the alarms, the alarms + medium events, alarms + medium and low events. (Figure 11)

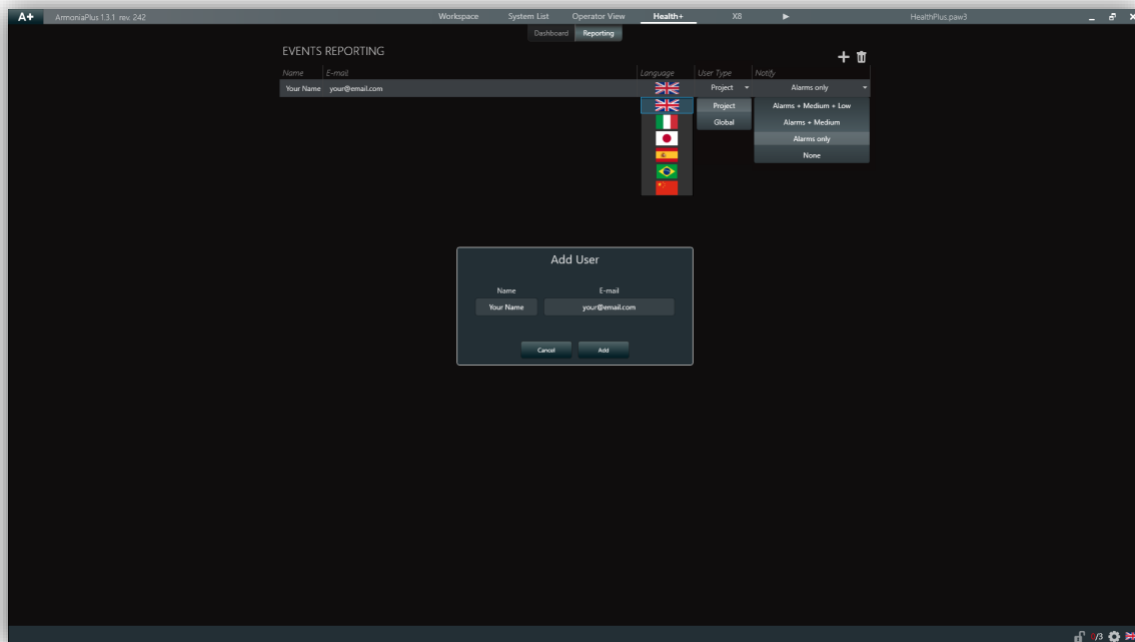


Figure 11 - Events Reporting



For HealthPlus to work it requires a computer with ArmoníaPlus running and a active internet connection.

Below you can see an example of HealthPlus email reporting. (Figure 12)

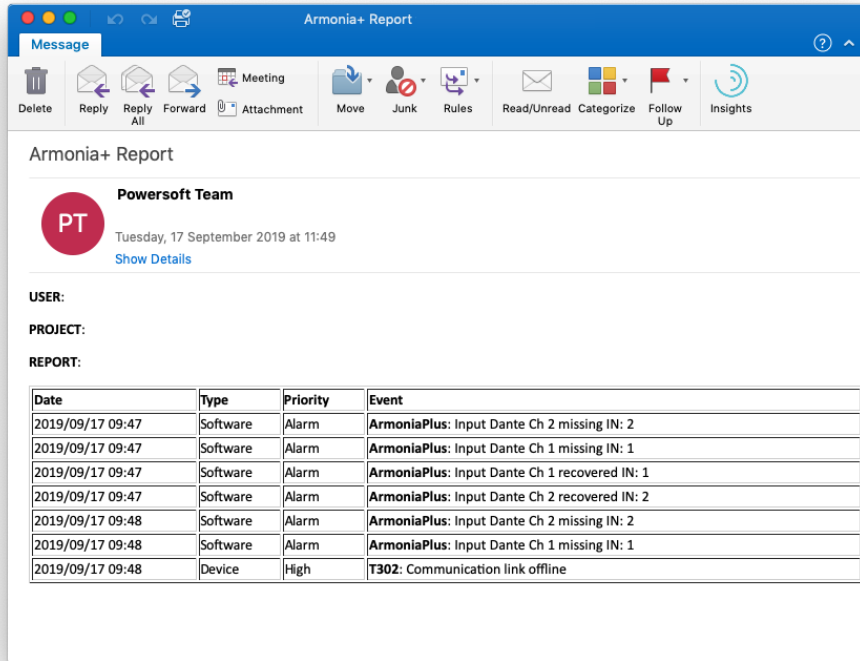


Figure 12 - Email Reporting



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