

Nettuno Senses Quick Start

Default settings:

IP Address: 192.168.135.64
Netmask: 255.255.255.0
User: "admin"
Password: no password

How to set up the network interface:

N1 Senses can be found with the browser utility (at the moment detected as a N1 codec), with this tool you can change IP address, netmask, gateway and name of the device.

Just like any other N1, you can access the web setup page (<http://ipaddress/setup/>), expand the "Senses Settings" menù and click the "Net Setup" option. After the changes, click the "Save and Apply" option and confirm the operation: the N1 Senses will restart with the new settings.

How to set up the encoder:

Under "Senses Settings" menu you can click on "Encoder Setup" and choose the correct Resolution, Quality, PAL/NTSC mode and Measure Unit. If you choose Imperial System all lengths are expressed in yards (about 0.9 meters).

How to upgrade the firmware:

Firmware upgrade is possible in the very same way of N1 codec.

How to add/delete users:

You can find the "User Manager" web page in the setup menù. You can set the following permissions: Light mode (can view only alarms), Normal mode (can view alarms and video), Full mode (can view alarms and video and configure alarms). Web access to setup pages is also allowed with three levels of security: "Admin" can modify all setup parameters, "View" can view setup parameters, "Deny" have no web access to setup pages.

How to check the N1 senses status:

Go to the "Stats" option in the setup menù, you can check memory usage, event DB status, connected users.

SiteManager and Spectiva:

At the present time you can connect to the N1 Senses just like any other network camera and see the live video, use the "setup server" option, but cannot view and configure the Deepath² alarms.

Connections Management:

N1 Senses permits to set six(6) different users in the "User Manager" tab of the setup menu. N1 reserves three (3) connection slots for N1 Senses RemoteControl connections and three (3) connection slots for SiteManager or Spectiva

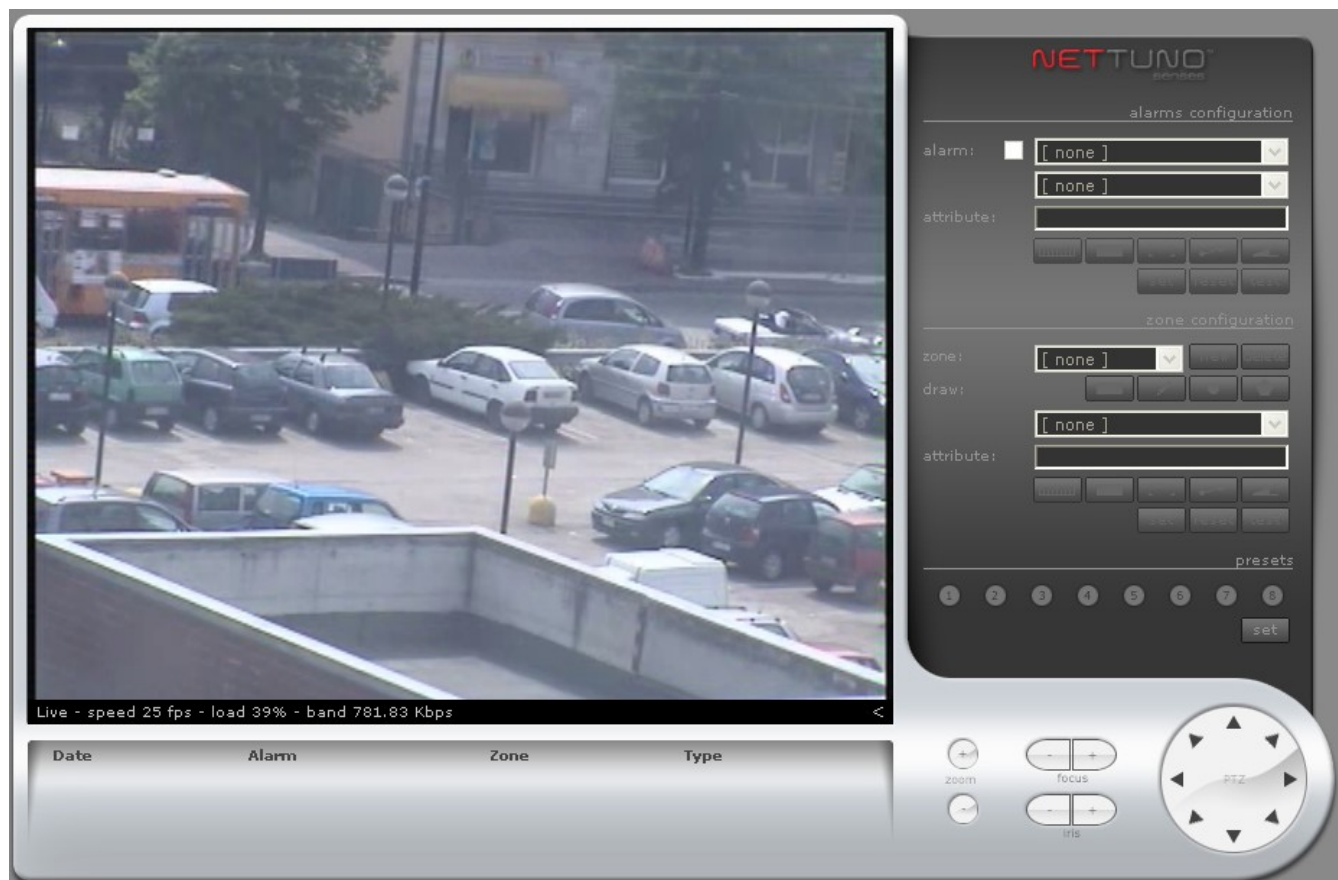
connections. The admin user has a privileged access to the system, if two RemoteControl regular users are connected, the third slot will be reserved for the admin and no regular user will be further admitted. Spectiva and Sitemanager connections with the same username/password will use only one N1 connection slot.

Camera Setup and Deepath² alarms:

Camera setup and the configuration of the alarms must be done with the Senses RemoteControl accessible via web:

<http://ipaddress>

After logging in, you will enter the so called **view mode** and see the RemoteControl interface:



At the bottom of the page you see the list of the alarms (now empty because no alarm is set) and the dome control buttons. On the right, the dark gray panel contains the alarm configuration tools (disabled in the view mode).

At the bottom of the live video you see some info about the stream, fps, N1

Senses load, and bandwidth, at the right you see a "<" symbol, if you click it you'll see the system menu:



"Logout" option logs you out and shows the login page.

"fast" option (or "best" if already switched) permits to change the rendering mode to screen. "fast" is a light, less cpu-expensive, OpenGL based rendering mode.

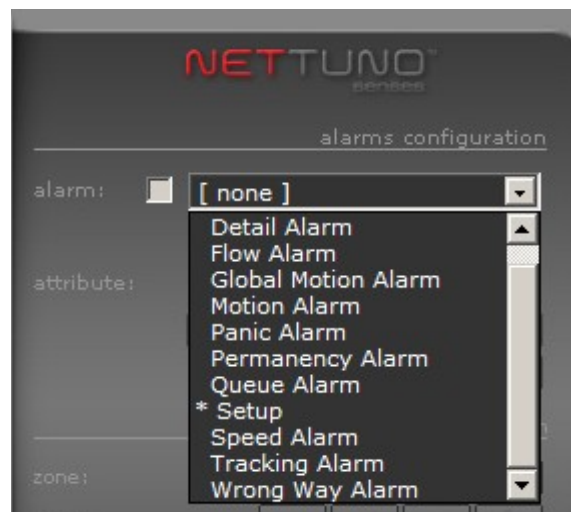
"best" is a more accurate, nice and smoother rendering mode.

"Setup" option will open the web setup page.

"Configure Deepath²" option will enable the alarm configuration tools (now disabled) and switch to the **configuration mode**.

Configuration mode:

Now you can see that the alarm list box is enabled; you can scroll the available alarms and enable them by clicking the checkbox on the left.

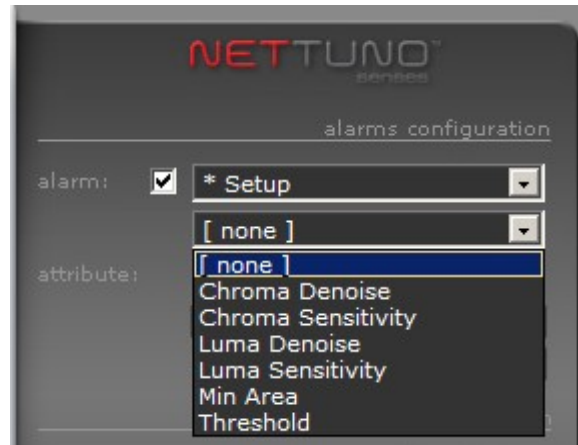


Configuration mode – Setup Alarm:

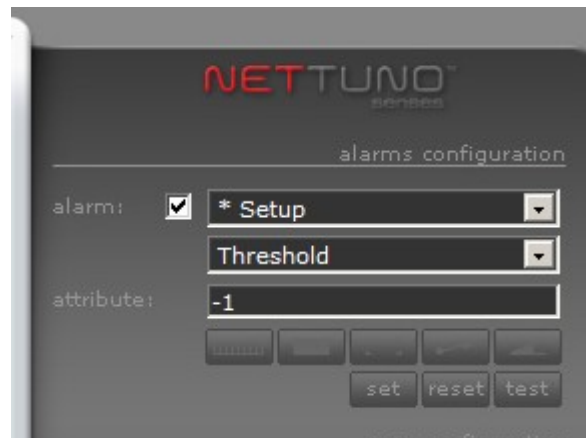
"Setup" is already enabled and it is not possible to disable it. "Setup" concerns camera settings.

Let's choose "Setup".

In the second list box you can configure specific settings related to your camera device:



For example the attribute "Threshold" is used to set the level of difference between background and foreground in order to recognize objects. It is a positive value, between 0 and 255. The value -1 means "automatic".



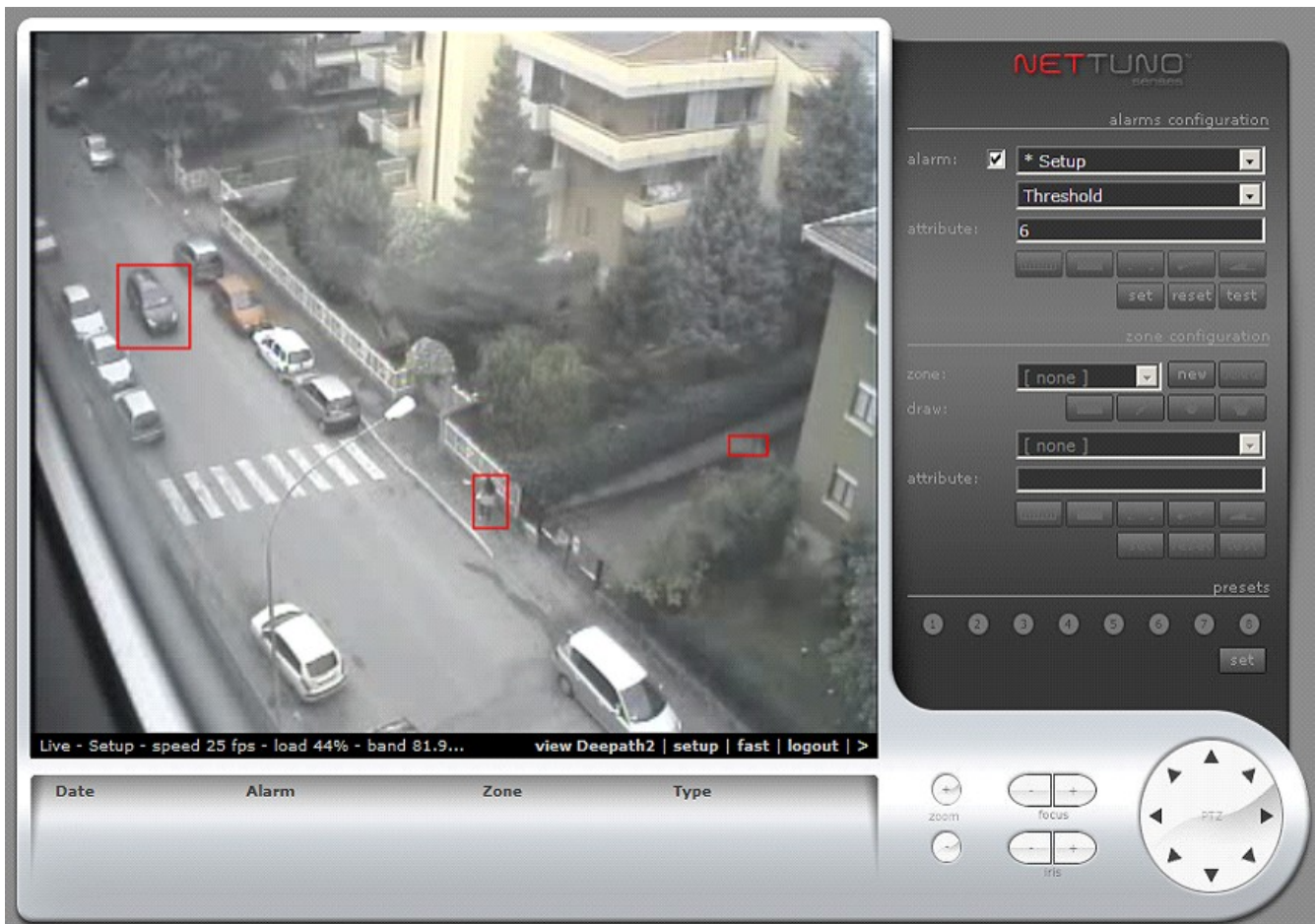
The image shows a NETTUNO camera interface. The main window displays a live video feed of a street scene with several red bounding boxes around detected objects, including cars and buildings. The interface includes a configuration panel on the right with the following sections:

- alarms configuration:**
 - alarm: * Setup
 - Threshold: [dropdown]
 - attribute: 1
 - Buttons: set, reset, test
- zone configuration:**
 - zone: [none]
 - draw: [dropdown]
 - attribute: [dropdown]
 - Buttons: new, delete, set, reset, test
- presets:**
 - Buttons: 1, 2, 3, 4, 5, 6, 7, 8, set

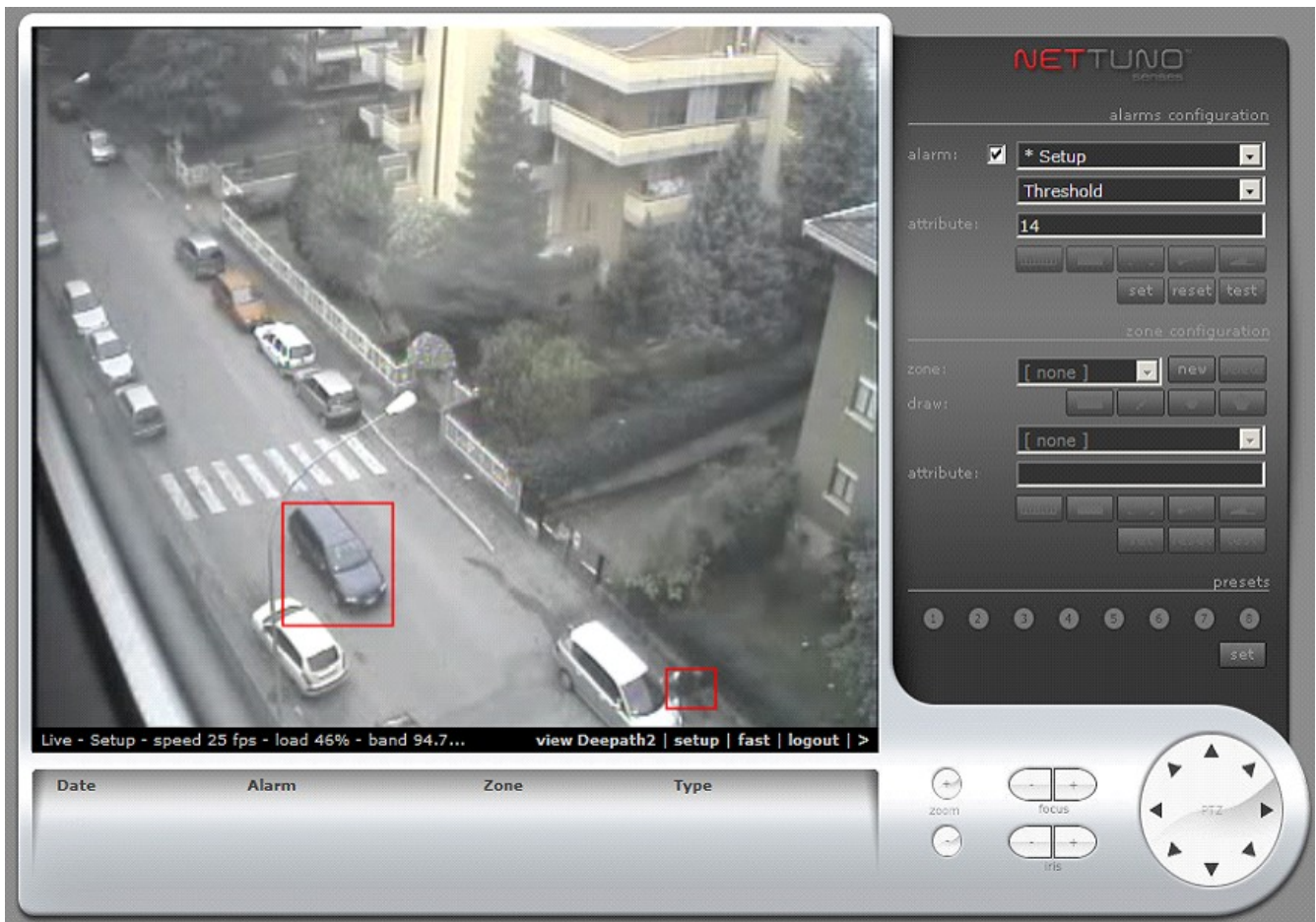
At the bottom of the interface, there is a control panel with the following elements:

- Navigation: zoom in, zoom out, focus, iris, PTZ (pan, tilt, zoom, reset)
- Status bar: Live - Setup - speed 25 fps - load 61% - band 148....
- Menu: view Deepath2 | setup | fast | logout | >
- Table headers: Date, Alarm, Zone, Type

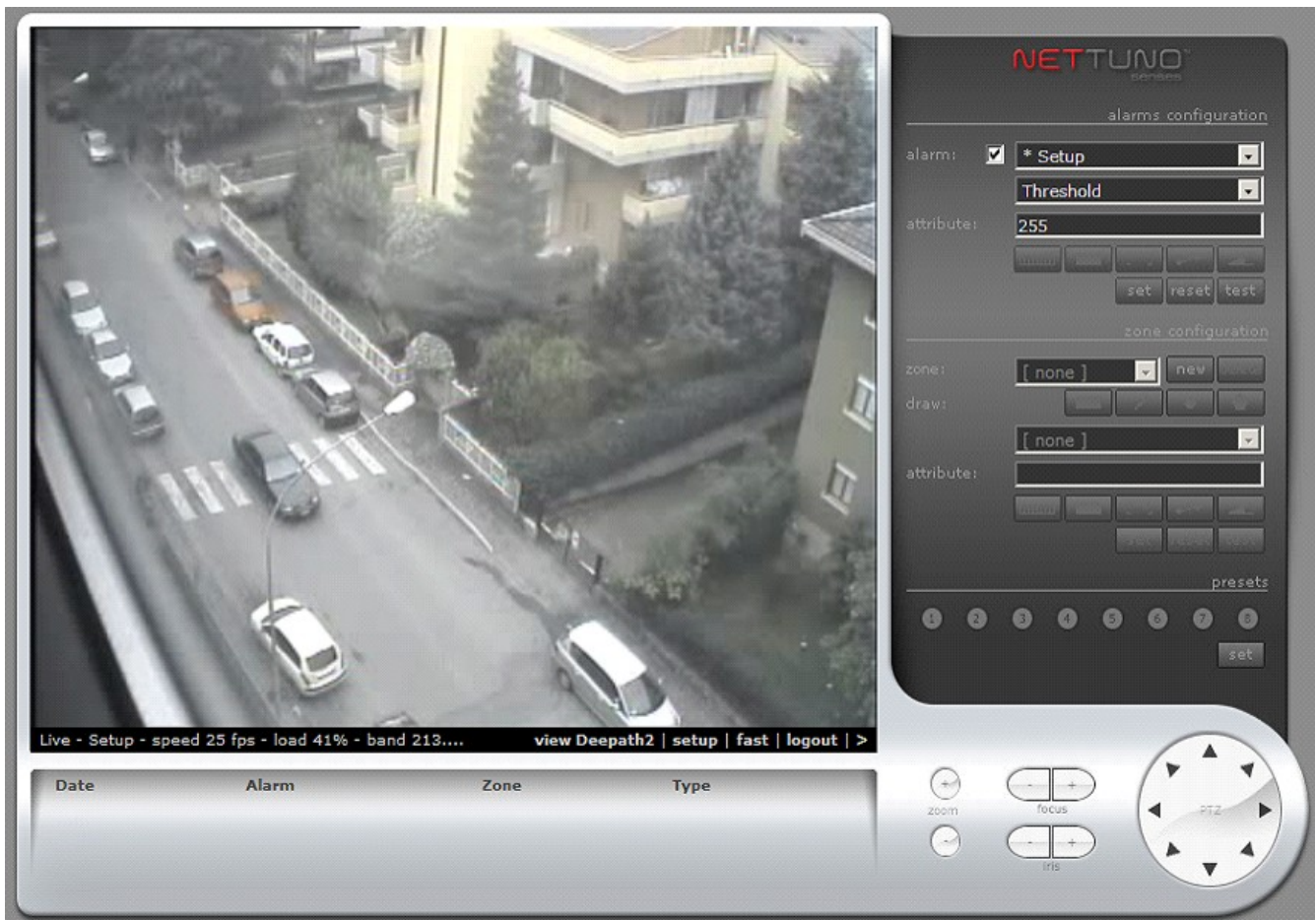
If we set a low value for the threshold attribute, for instance 1, we can see that common camera noise is detected as objects, so we know that we should increase the value.



If we put the threshold just little higher, for instance 6, we can see that the system is able to detect moving objects, but still some noise is included.



For this situation a value of 14 seems to be correct because all moving objects are detected and no noise appears.



For higher values we are not able to detect objects, so we should decrease the Threshold value.

Chroma and Luma denoise (values between 0 and 255) specify the strength of the smoothing filter of the Deepath2. Higher values means more attenuation of the noise.

Chroma sensitivity and Luma sensitivity (values between 0 and 255) set up the sensitivity of the system on chrominance and luminance input. 255 is the maximum sensitivity, so no attenuation is done in the source signal. 0 means that the specific component is not used.

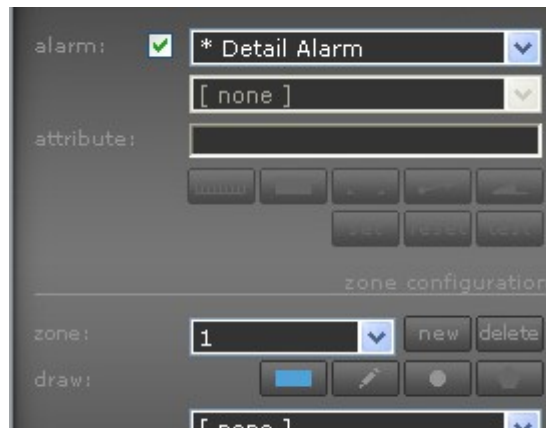
Min Area is the minimum surface of an object that we ask the system to recognize. It is always a positive value and is useful for avoiding little objects or some kind of noises.

Now we can configure the alarms.

Let's enable, for instance, the detail alarm:



Now you can create a specific zone for the detail alarm, click on the "new" button in the zone configuration section:



The zone list box now contains the index of the first zone, "1", and below the "rectangle" tool is highlighted, that is, enabled: this means you can select the area of coverage of zone "1". Click once in upper left corner of the zone, and click again in the bottom right corner of the zone.

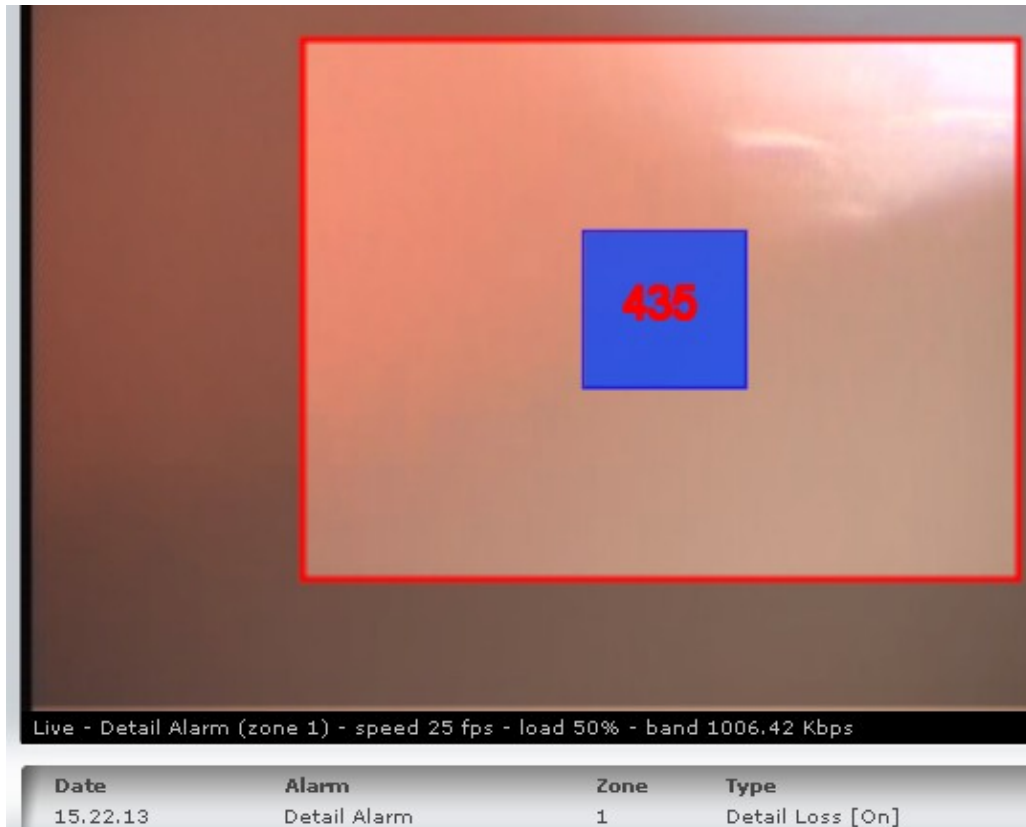


The borders of the rectangle are blue, and the selected region is lighter. Click the blue "rectangle" tool to disable it.

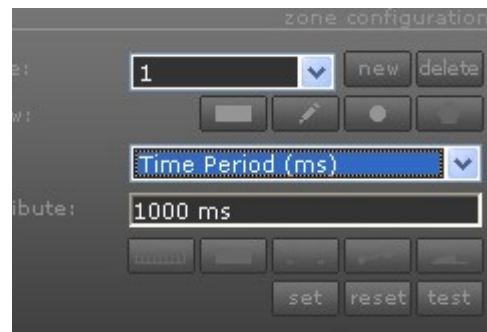
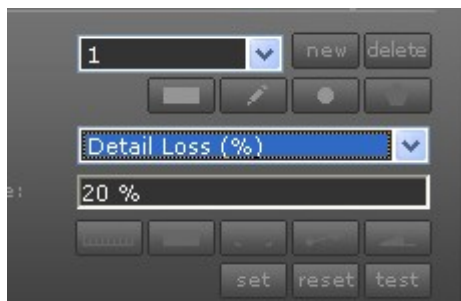


Now you will see the zone, and a box with a number. It's the amount of details in the selected region and may fluctuate a little. If the selected zone doesn't contain details (a white wall, or an out-of-focus image), the number will be low (1, 2, 3

maybe 200 or 300), if the zone contains a lot of details a larger value is displayed. Now hide the camera lens with a hand...



The border are now red, the alarm is displayed in the alarm list box. The amount of details is now 435, much lower than before (about 5000): a lot of details are missing. What triggered the alarm?
Click on the attribute list box of the zone:



You will find these default values: they mean, if there is a loss of 20% of the details in less than 1000 ms, give me an alarm. What if somebody covers the

camera lens very slowly? Nothing would happen, but you can still set a Detail Threshold value:



If the amount of details falls below 3000 (and usually we now it's 5000), give me an alarm, no matter if it takes two hours to go from 5000 to 3000.

Now let's go back to the view mode, click the "<" symbol, and then the "View Deepath²" option.

The highlighted area is gone, and so the box with the detail amount. Cover the camera lens again.

Live - speed 25 fps - load 65% - band 1.26 Mbps

Date	Alarm	Zone	Type
15.34.06	Detail Alarm	1	Low Detail [On]
15.22.16	Detail Alarm	1	Detail Loss [Off]
15.22.13	Detail Alarm	1	Detail Loss [On]

You will just see the region highlighted with red borders and a Low Detail alarm notification below.

The difference between the configuration mode and the view mode is that in the former you see things that are useful for setting up the values, and always see what's going on, in the latter you only see alarms.

By the way, a Low Detail alarm means that the detail amount is lower than the Detail Threshold, the Detail Loss alarm means that we have a loss of detail in a certain time period (Detail Loss % in Time Period milliseconds).

This is an example on how to configure an alarm. Some attributes may be present for a specific alarm, others for a specific zone of a specific alarm, a zone may have different attributes value from another of the same alarm, but the alarm attributes are the same for all the zones.

Some attributes may activate tools like a length, an area or a direction, in this case, when the attribute is selected, the tool is highlighted in blue, and you can use the mouse in the live video to set the value.

Configuration mode – Perspective Alarm:

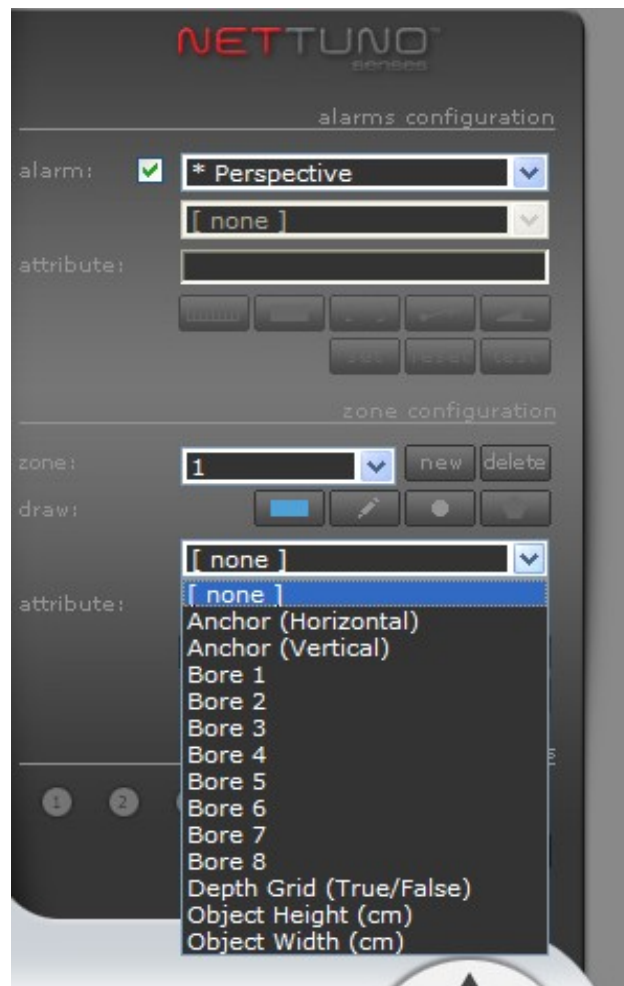
“Perspective” is a particular alarm, which allows the user to specify the perspective of the scene.

Let's choose “Perspective”.

The perspective can be described as different planes, everyone of which represented from one zone.

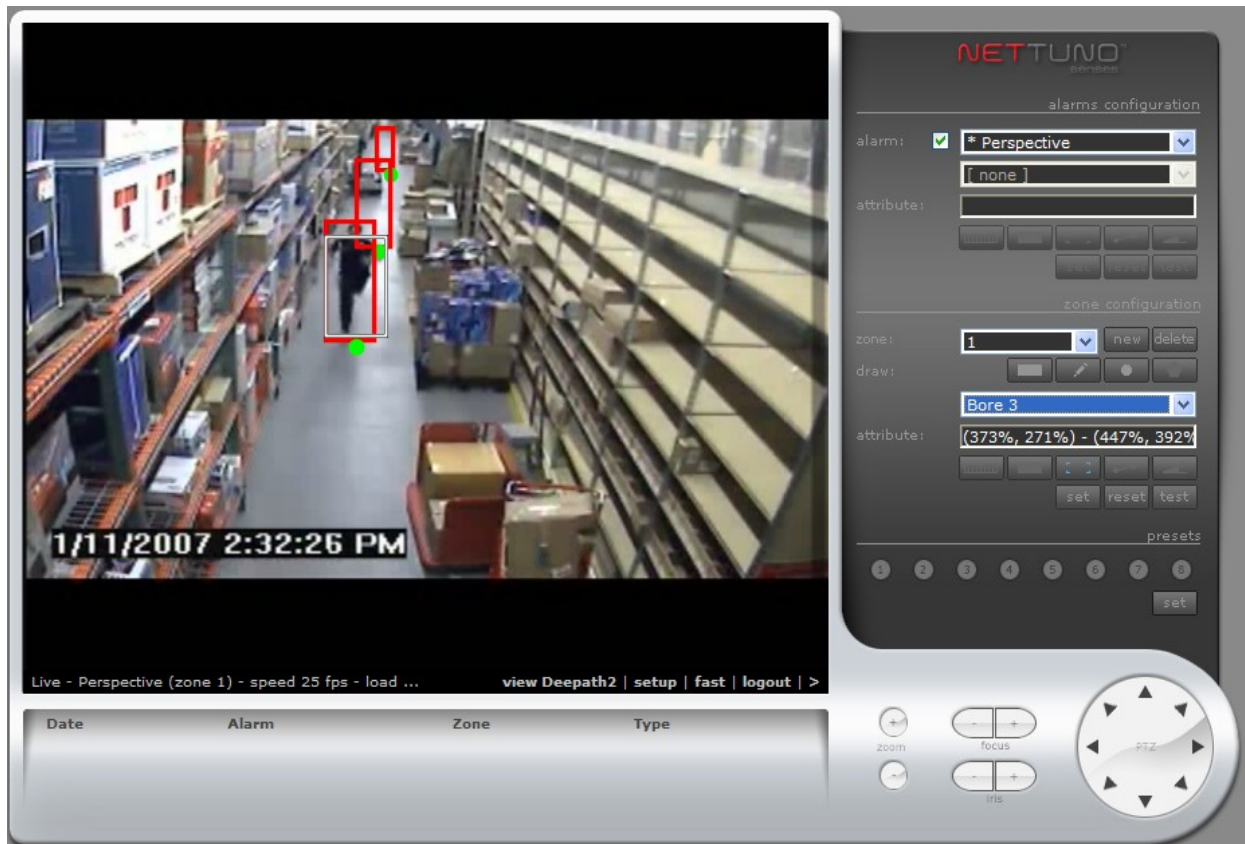
If a perspective of the scene is setted, then the Deepath can use it to enhance its performances.

In the zone's listbox you can configure specific settings related to selected zone:

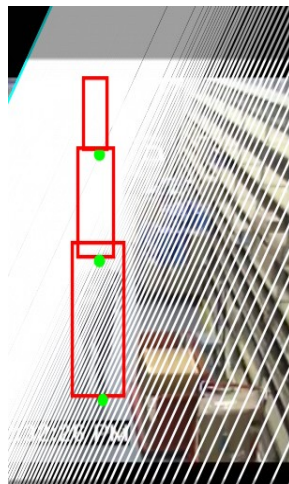


“Object Width” and “Object Height” attributes are used to specify the sizes of the object used to describe the scene's perspective (“inch” or “centimeter”, depending by the selected capture mode).

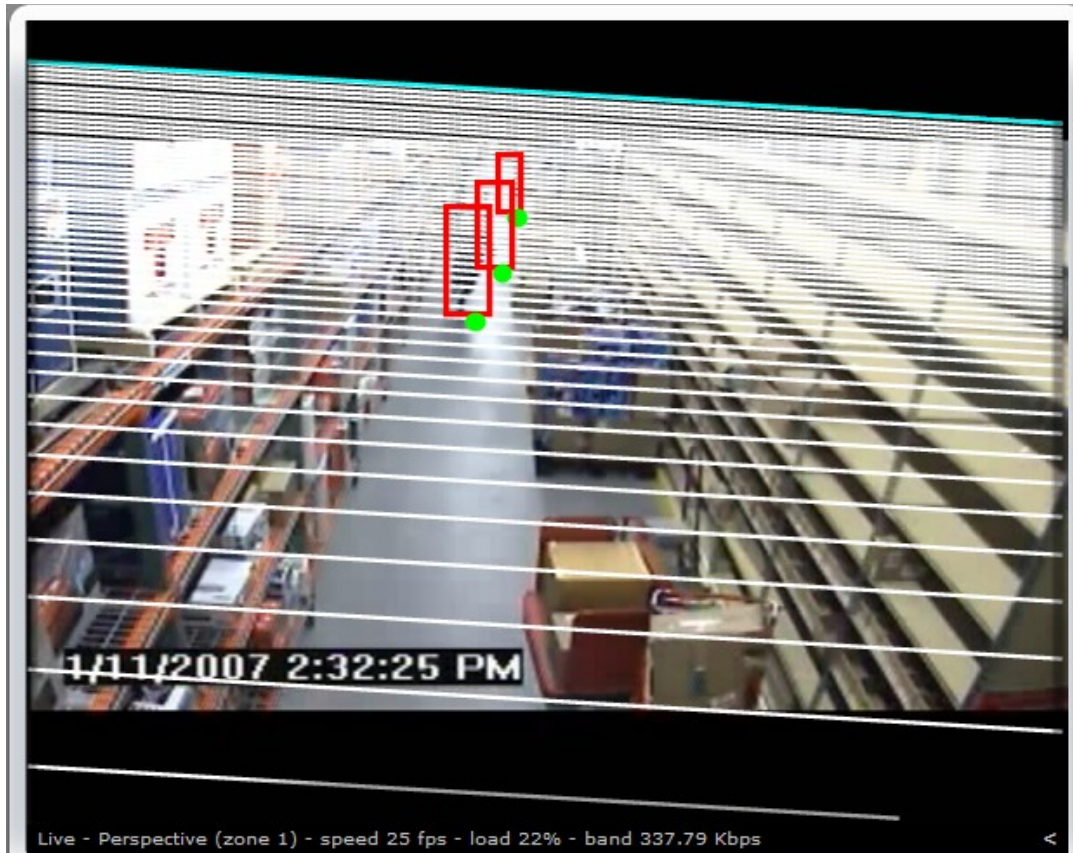
Then you can use at least three "Bore" attribute to specify the screen sizes of the object in the scene.



If three or more "Bore" attributes are set, the perspective alarm can compute a perspective approximation of the selected zone. The "Bore" placing is a critical operation. If these are misplaced, the the perspective approximation can be totally wrong. So, the "Bore" attributes may cover all the zone surface, in vertical and horizontal. Below is shown a misplaced of the "Bore", which are on a line.



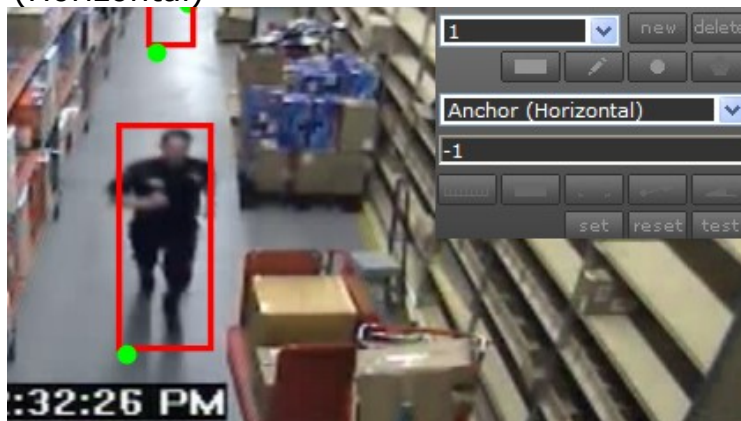
You can see this approximation selecting the "Depth Grid" attribute: a wireframe plan is shown.

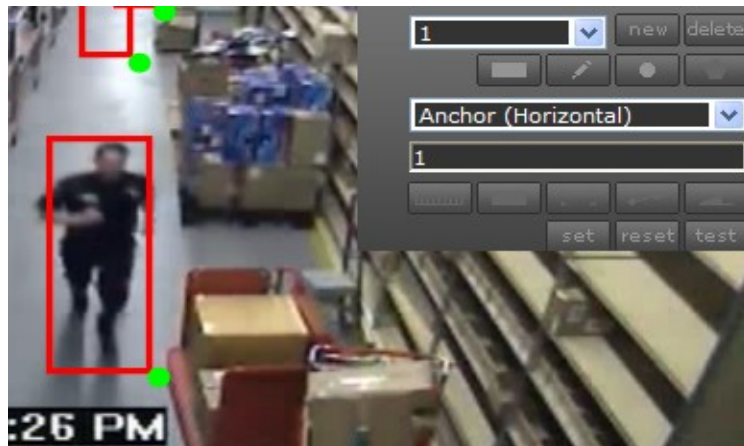


You can specify the "Anchor" attributes. These specify the point of the "Bore" bounding box may be used to computing the perspective approximation. You can set these values to "+1", "0" and "-1". The "Anchor" values modify the plan approximation.

An example is shown below.

Changing "Anchor (Horizontal)"





Changing "Anchor (Vertical)"

