

# FAQ to Heimann Sensor ArraySoft GUI and HTPA products



## Content:

- 1.) How can I establish a connection between my application set /HTPA module (UDP) and the given GUI (Cam.exe)?
- 2.) What is the “working distance” for the objects in front of a HTPA?

### 1.) How can I establish a connection between my application set /HTPA module (UDP) and the given GUI (Cam.exe)?

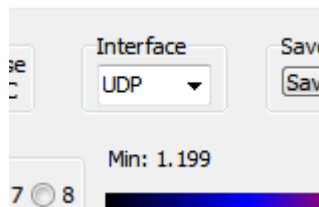
#### Solution:

In first instance, your local PC and the module should be in the same subnet. To achieve this, there are three possible ways. The easiest way is to connect the device to the same DHCP as your PC. Connection should be possible within a few seconds. Naturally, this is only possible, if a switch, hub, router or equal devices are used.

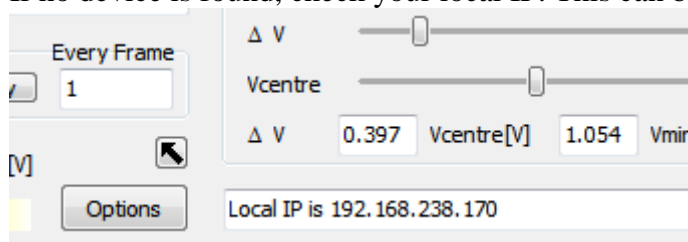
Usually, the module should be used with the given crossed patch cable directly to a PC or notebook. If this is the case, it might be necessary either to change the IP address of your PC, or to change the IP of the module.

Since it is easier to change the module IP, this should be the preferred solution. This solution works only, if a single module is connected to the PC. If you try to deal with several modules, you should set their IP individually by powering only one device. The module saves the given IP and uses this as default. Proceed through the following steps:

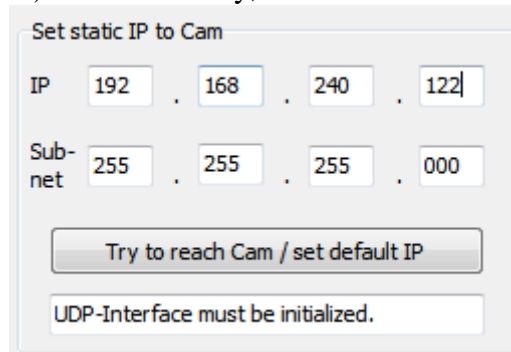
- 1.) Connect the module to your PC, power it up
- 2.) Start “Cam.exe”



- 3.) Choose Interface→UDP
- 4.) If no device is found, check your local IP. This can be found in the lower right corner:



- 5.) Now open the options dialogue.
- 6.) At the delivery, it will look like this



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- 7.) Be aware, that this is NOT the current IP of the device (although the default IP is 192.168.240.122), it is only the last IP which was typed into this mask.
- 8.) If you do not have any experience with networks (and no expert knowledge regarding subnets) set all the values, which are associated to a subnet of 255 to exact the same value as your local IP. The other values should differ from your local IP. Example:

Set static IP to Cam

IP 192 . 168 . 238 . 122

Sub-net 255 . 255 . 255 . 000

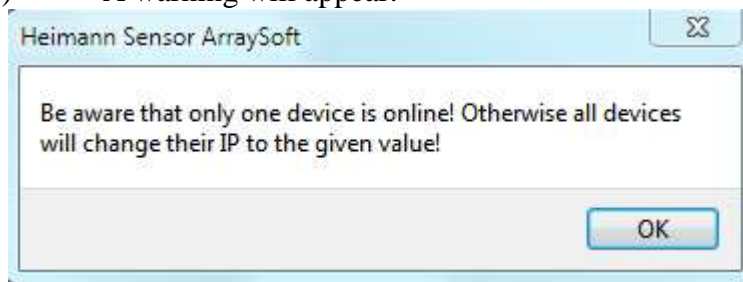
Try to reach Cam / set default IP

Local IP is 192.168.238.170

The green ones should be equal, the blue ones MUST differ.

- 9.) Now hit the button Try to reach Cam / set default IP.

- 10.) A warning will appear:



- 11.) Press OK.

- 12.) If the module is connected and the message can reach the module, this screen should appear:



- 13.) Now close the options dialogue, select Interface→UDP again. The device should now be reachable.

- 14.) In some cases it might happen, that the device is found, but not reachable (depends on your configuration). In that case, you will find the same device with two different IP's in the options dialogue. Select here the device with the changed (new) IP, close the options and hit start. Be aware to use the T mode (upper right corner) to have a calibrated image.

### 2. What is the “working distance” for the objects in front of a HTPA?

Answer: Usually the focus is set to infinity; therefore a minimum distance of 15 times the focal length of the sensor is required. In example for HTPA32x31L10/0.8 the focal length is 10mm. Therefore, 150mm distance is required to get a sharp image. Furthermore, the fill factor also needs to be 1, see the explanation for the maximum distance.

For maximum distance the image of the object on the chip needs to be as large as at least one pixel (fill factor=1). If the image gets smaller, this will result in false readings. The size of the image depends on the focal length and the size of the object. The image size  $I$  can be easily

calculated by  $I = \frac{O \cdot f}{d}$ , where  $O$  is the object size,  $f$  the focal length and  $d$  the distance of the

object. The image size divided by the pixel pitch results in the number of pixels illuminated.

In example:

A human with an shoulder width of 50 cm is 1.5 metres distant from an HTPA32x31L10. Therefore,  $f=0.01\text{m}$ ,  $O=0.5\text{m}$ ,  $d=1.5\text{m} \rightarrow I=3,33\text{E-}3\text{m}$ . With a pixel pitch of  $220\mu\text{m}$ , this results in 15 pixels illuminated.