AN1101 - Using the Net2Air site surveyor kit

Net2Air site surveyor kit (690-200)

The unit should be mounted vertically in the
supplied base to achieve the optimum range.

The kit consists of a transmitter base station and a hand held test card receiver. The card displays the signal condition on a row of LED's. No PC connection is required.

5V power is provided to the base station by a mains adaptor using a USB style connection.

The unit may also be powered directly by a PC using a USB cable but will show 'Windows needs to install driver software.' As you are only using the USB as a power source, no driver is required so select 'Don't show this message again'.

When powered up the unit will display a steady Green power LED and the other status LED's will flash alternately indicating that the unit is transmitting test data.

Press the card's button at locations intended for Net2 nano control units. The row of LED's on the card will indicate whether successful communications can be established.

This checks the data content as well as signal strength to confirm reliable communication.

You must see at least one Green LED lit for a good signal condition. If only the Red LED's display, you should look for a better site; try re-locating the Nano or bridge into a more direct 'line of sight'.

See also:- *AN1096 - How to plan a Net2 nano site installation* < http://paxton.info/975 >

Wireless obstructions

Fixed obstructions
These will be walls, racking, cabinets, etc. They are often made of metal or have a metal reinforcement that will block the data signal.

Moveable obstructions
These include storage bins, vehicles, people, etc. You need to be aware of this if traffic levels vary on a daily basis. Again we are trying to maintain a clear line of sight between bridge and Nano.

Net2Air wireless communication

Net2Air is a term used to describe the wireless communication protocol used by Paxton products in much the same way as Bluetooth. The Net2Air protocol is not open; only Paxton products can use this technology.

The typical range in an office environment is 10 metres. Where there is clear 'line of sight' across an open space, (warehouse roof void, car park, etc) a range of 30 metres is possible. The use of the Net2Air site surveyor kit is strongly advised to confirm these distances.

A Surveyor that initially shows a Green indication can reduce to a single Red LED when moved into the corner of the room. Remember, the indication is checking, not only for signal strength but more importantly for corrupted data packets.

Preparation

The surveyor card is used to check signal condition and determine where the good and bad locations are on the site. It is just as important to know the limitations of the signal as well as its strengths so that the Nano can be sited reliably.

It is a good idea to map out the site and mark the positions of the door locations so that you get a clear picture as to how the Net2 nano ACU's are to be grouped together. You can then make the decision on how many bridges are required and where they need to be sited.

Of course, the important factor is the sending and receiving of wireless data and so the Nano may be better sited a short distance away from the door, perhaps around a corridor corner, if this gives a much better signal response.

Testing

Power up the surveyor base station and confirm that its Status LED's are flashing. While standing beside the base station, hold down the button on the test card and you should see all its Red and Green LED's illuminate. If there is no display, the battery may need replacing.

Walk around the site, checking the signal at regular intervals and you will see the limitations (loss of one or both Green LED's) of the data signal. You can hold down the button as you move about the site as the signal is constantly being sampled and the display updated.

You should now go to a door location and ensure that you have a Green LED indication. If only one Green is displayed, move the test card around the area to see if the signal can be improved. If the signal should reduce to only Red LED's, then this shows the signal at this point to be marginal and an alternative position for the Nano or bridge should be tried.

It may be better to ensure that the Nano has a clear line of site to the bridge and then run longer lock and reader cables to the door position.

Remember, both Net2Air USB (1 only) and Net2Air Ethernet bridge units can be used to support the system and so you should run the test for each door location to check the site for full coverage.