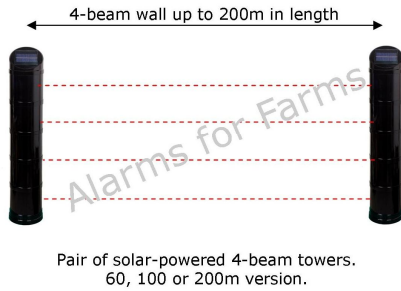


# Designing your Active IR System

There are four very simple steps to designing an Active Infra-red system to suit your requirements exactly.

**Step 1:** Do you want to install one or more distinct walls (option 1), are you trying to build walls that join together (option 2)?



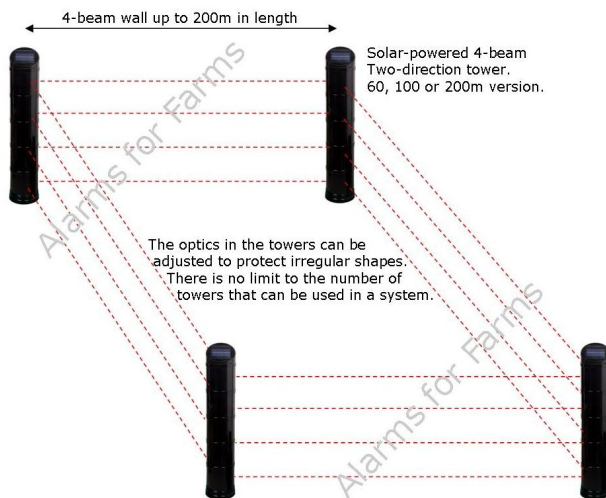
**Option 1:** To build a straight infra-red wall, you need a beamset, which comprises two units, an emitter and a receptor. The emitter emits the beams and the receptor reads the beams. If all the beams in a wall are broken simultaneously, an alarm is generated. We have dual-beam sensors and quad-beam towers, shown below:



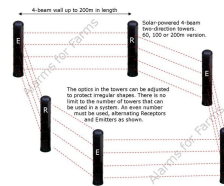
Dual-beam units.  
Height 180mm



Quad-beam single-direction towers.  
Height 730mm



**Option 2:** To build a complete infra-red cordon, you need at least two beamsets. Each beamset comprises a pair of two-direction towers. The optics inside these towers can be swivelled through 180 degrees, allowing you to form an irregularly shaped cordon as shown in the diagram (below). Two-direction towers are sold individually, allowing you to selected lengths to suit.



An unlimited number of beamsets can be deployed to construct a continual infra-red cordon around the protected area.

**Step 2: Decide which receiver you need.** We have a variety of receivers to choose from, as follows:

**Single-channel:** This is a simple "black-box" solution comprising a high-sensitivity receiver and a built-in buzzer. It is armed and disarmed simply by switching it on and off at the wall. It can therefore be plugged into a timer for automatic arming and disarming. The single-channel receiver will accommodate only one beamset (i.e. one pair of sensors or towers). The buzzer will sound for 20 seconds then automatically reset. An output is provided to drive an external siren, lighting etc.

**Six-channel:** Similar to the single-channel unit, comprising a high-sensitivity receiver and a built-in buzzer, but expanded to accommodate up to six beamsets. It is armed and disarmed simply by switching it on and off at the wall. It can therefore be plugged into a timer for automatic arming and disarming. A row of lights on the front of the unit will identify the beamset that has been triggered. The buzzer will sound for 20 seconds then automatically reset. An output is provided to drive an external siren, lighting etc.

**8-channel with landline dialler:** This is a much more elaborate box of tricks. It has eight zones over which to spread your sensors and an indicator light for each zone, meaning that you can identify the source of any intrusion at a glance. Additional benefits include a remote control facility. It also incorporates a telephone dialler that plugs into a landline and calls up to six numbers (other landlines and mobiles) when triggered. An output is provided for an external siren or a buzzer. It's ideal for multi-sensor applications and applications where remote-control arming and disarming is required.

**8-channel with GSM dialler:** A sophisticated receiver / control panel. It has eight zones over which to spread your sensors and an LED display that identifies the zone that has been triggered. Additional benefits include a remote control facility, a host of programmable features, zone identification in outgoing text messages and a programmable arming / disarming schedule. It accepts a SIM card on any network and will send text messages and calls up to six numbers (landlines and mobiles) when triggered. An output is provided for an external siren or a buzzer. It's ideal for multi-sensor applications and applications where remote-control arming and disarming and remote monitoring without a landline is required.

**8-channel with individual zone outputs:** A building block that provides a separate relay output for each of its eight zones. Ideal for incorporation into an existing hardwired alarm system or CCTV recorder.

**Step 3: Decide whether you need any repeaters.** The transmitting range of the external sensors is about 1km line-of-sight. If there are buildings or obstructions in the way, this may be reduced by up to 50%. To boost the range, you can install one or more wireless solar-powered repeaters. Each repeater will add up to a kilometre to the effective range of the beams, remote controls etc.

**Step 4: Select your Bells and Whistles.** The receivers listed have built-in sounders that will alert you in the house when there's a problem outside. Each receiver can also accommodate a range of external sirens, pagers and lighting controllers, so you can make sure that the alarm is raised outside or even sent to a pager in your pocket or your mobile phone. These too, along with various other handy options are listed in the **Active Infra-red Perimeter Protection** section of our website.

Needless to say, if you have any queries when you're putting your design together, or when you're installing it, we're delighted to help. Just give us a call on 01573 440761 and we'll talk you through it.

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