

Increased range for IR systems

A simple method of increasing the range of published IR projects is to place the IR LED at the focal point of a magnifying glass, says **Spencer Featherstone of Toowoomba Qld.**

With a little experimentation a parallel beam of light can be produced. The diameter of the beam will depend on the diameter of the lens and, in some cases, its focal length.

In theory the beam will have a constant intensity with distance and will only be attenuated by its passage through the atmosphere. In practice it is difficult to focus

the beam this accurately. However, ranges in excess of one hundred metres are possible and this means that the IR trip relay (ETI-570) can be used as a perimeter alarm, with the aid of a few mirrors.

This idea can also be applied to the IR remote control system (ETI-599). In this case it would be better to place the IR LEDs just inside the focal point of the lens to create a slightly divergent beam. While this will limit the maximum range, it will make the transmitter easier to aim over long distances.