

# TAKEX

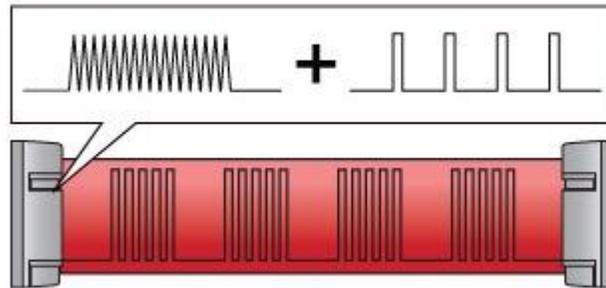
## Beam Technology Explained.....

### peace-of-mind protection

As the challenges and demands of an external environment are so much greater than an internal environment, different products and technologies need to be employed. External detectors need to provide peace of mind that an intruder will always be detected before gaining access to the premises, and that unexplained activations are kept to a minimum.

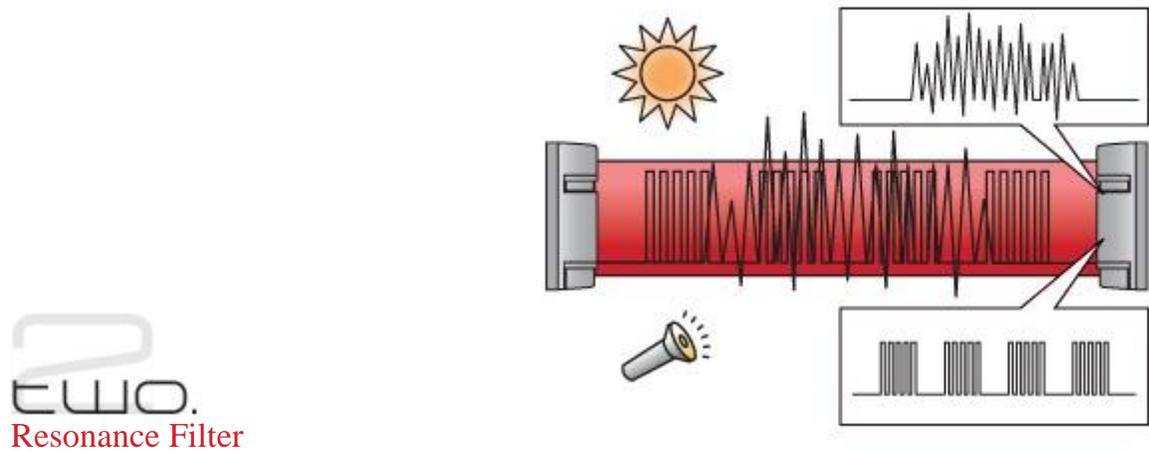
For over 50 years TAKEX has provided active infrared detection devices for industrial, commercial and domestic installation. In this time we have developed a patented combination of technologies to provide the most reliable point-to-point active infrared detection units available...

The fundamentals of an active infrared beam are simple; a transmitter emits a signal, a receiver recognizes that signal, and a break in the signal causes the receiver to report an alarm. The stability of this signal is paramount to the reliability and effectiveness of the system. In a world filled with competing sources of infrared light, including car head lamps, security illuminators and of course the sun, it can be difficult for an infrared receiver to distinguish between the intended transmitted signal and the myriad of alternative signals. TAKEX has developed and combined features which are specifically designed to overcome these issues, providing unsurpassed protection.

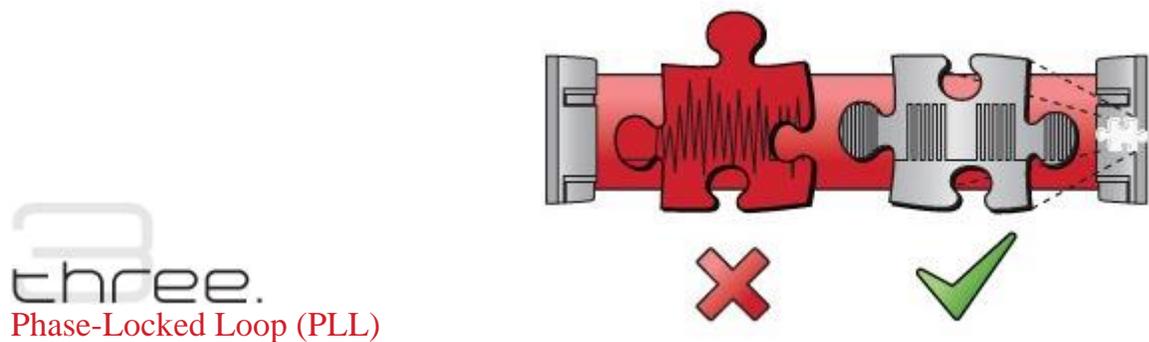


one.  
Double Modulation

Most light sources, including infrared, emit a wide spectrum of light, not just the visible white light we can see. This means that manufacturers of active infrared beams must use pulsed or modulated signals in order to try and discriminate their transmitted signal from other light sources. TAKEEX was the first company to develop a double modulated signal, which doesn't occur naturally or by chance, making the job of discrimination for the receiver much easier and more reliable.

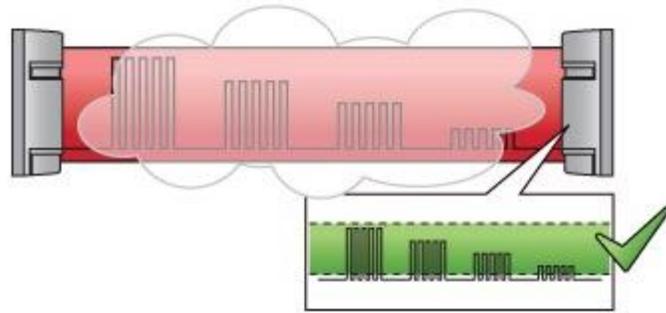


Before the received signal is analyzed, the receiver has a filtration circuit which removes unwanted background noise and cleans up the signal.



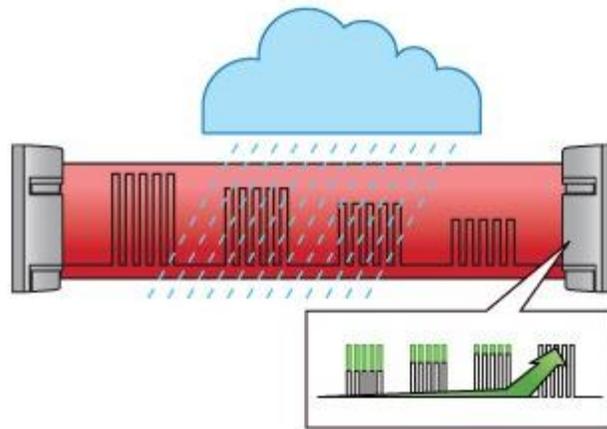
Each TAKEEX receiver carries an imprint of the unique double modulated signal to verify that the received signal is in fact genuine. The PLL circuitry continually monitors the signal levels and optimizes the system for maximum performance in changing environmental conditions.

4  
FOUR.  
Auto-Gain Lock (AGL)



Most beams are equipped with this function, which determines the level of signal degradation that can be withstood before an alarm is generated. What does vary between manufacturers is the percentage of signal tolerated. With all TAKEX beams, the signal can degrade by over 99% before the receiver will report an alarm, meaning that at only 1% visibility the reliability is still assured.

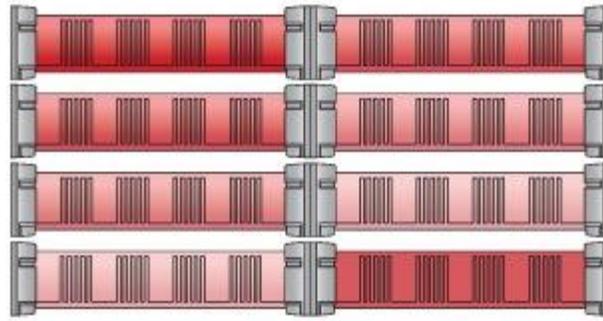
5  
FIVE.  
Auto-Gain Control (AGC) +  
Environmental Circuit



This feature enables the receiver to constantly monitor and react to the signal strength it receives. If the signal drops below a certain threshold the receiver can increase its sensitivity by up to 300% to maintain the protection integrity. If the signal continues to deteriorate at a consistent level, the receiver has an output to warn the system that the environmental conditions may cause the unit to drop into alarm condition.



4-ch Selectable



Many TAKEX beams are equipped with the ability to select one of 4 clearly defined channels, allowing the installation of multiple sets of beams in close proximity without the worry of crosstalk interference, and without the need for costly sync cabling within zones.

For any external detection device to be effective and reliable, it must be able to cope with any variety of environmental conditions, such as rain, snow, fog and sunlight. TAKEX has taken all of these considerations into account and combined technology and features to overcome these conditions to provide a stable, reliable product designed for years of trouble free service.

## The TAKEX – Solarbeam Relationship.....

The key issues for implementing IR beam technology are providing a suitable enclosure to ensure system longevity as well as providing power and connectivity to operate in remote areas or areas lacking infrastructure. Solarbeam Security solves this by providing durable battery and solar powered platforms to power the TAKEX beam arrays, protect them from the elements, and provide communication for reporting beam breaks as well as internal diagnostics. Free from expensive electrical infrastructure, as well architectural planning and permitting – Solarbeam towers require only a cement pedestal for mounting and install easily and quickly. Should security requirements or priorities change – the towers may be conveniently relocated to meet the new security challenge. This ensures your investment is in the product and not the infrastructure. Read more at [www.solarbeam.com](http://www.solarbeam.com)

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