Border Control Solutions

With the acceleration of global economic integration and the rapid development of information technology, activities such as cross-border trade, cross-border tourism, and academic exchanges have become increasingly frequent. As the forefront of communication between countries, the strategic position of border areas is growing day by day. However, this increasingly close communication has also brought many security risks, such as illegal border crossing, smuggling, illegal surveying, espionage activities, and other threats that continue to emerge and show new characteristics of organization and technology. Criminals take advantage of the complex terrain and blind spots in border supervision to construct hidden smuggling networks, seriously disrupting the national economic order and ecological balance; Illegal surveying and

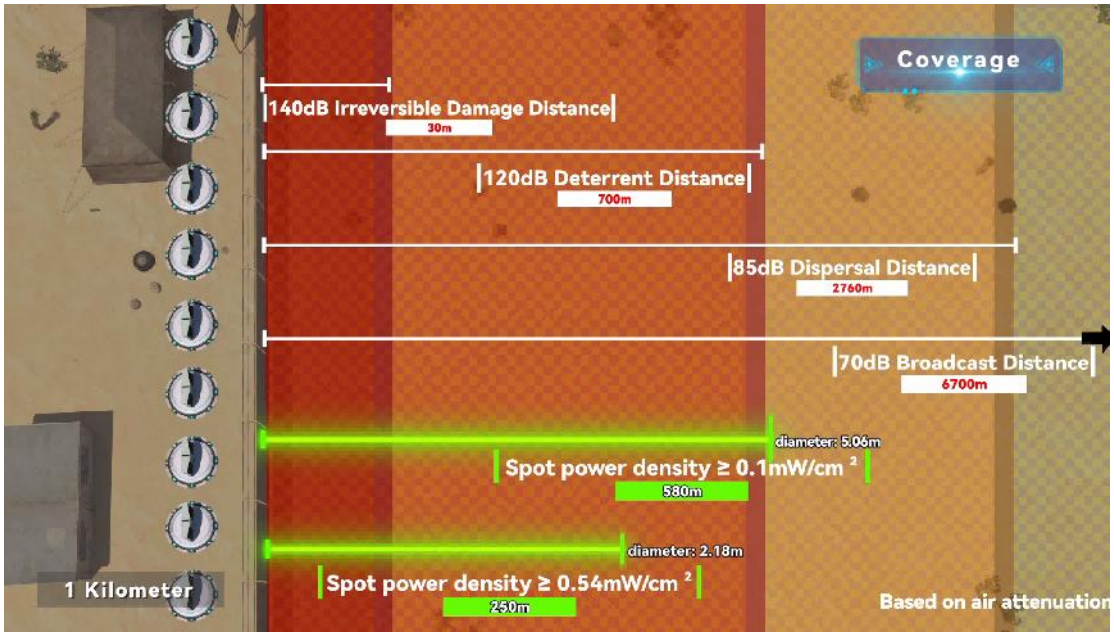
mapping activities pose a potential threat to national security by stealing key geographic information such as terrain and military facilities.

Faced with these severe challenges, traditional border control measures have exposed obvious shortcomings. Human patrol is limited by personnel physical strength, patrol range, and time, making it difficult to achieve full time and full coverage supervision. In complex terrains such as steep mountains and deserts, patrol efficiency is greatly reduced; Although camera monitoring can capture images in real time, it lacks the ability of active intervention. Suspicious targets that have entered the border area cannot be driven away and warned in a timely manner. In addition, in severe weather (such as rainstorm, sand and dust, dense fog), the definition of monitoring images is seriously affected, which is likely to lead to target omission. In addition, the control mode relying solely on manpower and monitoring equipment is difficult to form sufficient deterrence against criminals and cannot effectively curb their illegal and criminal behavior.

In this context, directional sound and light devices stand out with their unique advantages. This device is based on the non lethal design concept, and through the dual means of strong sound and strong light, it forms a powerful deterrent against abnormal targets at the border without causing casualties. Its strong sound system can emit high decibel harsh noise, using directional sound wave technology to accurately project warning sounds to target areas thousands of kilometers away. The high-intensity sound pressure causes strong auditory stimulation and psychological pressure on illegal border crossers, forcing them to evacuate; Laser dazzling technology can temporarily blind or stun cross-border individuals in complex environments by emitting specific wavelength laser beams, combined with strong light bursts to form effective deterrence. At the same time, the device's built-in

high-definition monitoring system enables 24-hour real-time monitoring. Once a suspicious situation is detected, it will automatically trigger an audible and visual alarm and transmit the image to the command center, making it easy for control personnel to quickly grasp the situation and handle it accurately.

In addition, it can also be linked with monitoring to intervene in illegal border crossings, assist in patrol positioning, issue instructions to disperse crowds in group incidents, and transmit evacuation guidelines during disasters. With precise control capabilities, directional sound and light equipment can adjust the intensity and range of sound and light as needed, and perform differentiated treatment on different targets. While avoiding casualties, it comprehensively improves the accuracy and safety of border control, fills the gap in active defense and deterrence in traditional control, provides solid guarantees for border security and stability, and becomes an inevitable choice to enhance border control capabilities.



Directional sound and light equipment, with its multidimensional technological advantages, brings a new breakthrough to border control. The combination of directional strong sound and green light dazzling creates a "acoustic+optical" dual barrier within a range of 200-1000 meters. Through practical verification, the effective deterrence rate against illegal border crossers is as high as 92%, significantly reducing the risk of personnel conflict compared to traditional physical fences; Beam angle ± 15 ° precise control technology, achieving precise sound and light strikes, avoiding interference with wildlife in non target areas, and balancing control efficiency and ecological protection; The monitoring system is linked with the sound and light equipment in milliseconds. Once the video recognizes cross-border behavior, the equipment automatically turns to the target and handles it according to the three-level response mechanism of "voice warning → strong sound

drive away → strong light interference", with an average time of no more than 15 seconds, which is 10 times more efficient than manual patrol; The equipment casing is made of salt spray resistant aluminum alloy, which has a service life of over 8 years in extreme environments such as deserts and coastal areas. Its weather resistance is 50% higher than that of ordinary equipment. With its efficient, precise, long-lasting, and environmentally friendly characteristics, it fully empowers border control work in all aspects.