



BORDER & COASTAL SURVEILLANCE

ISRT / Intelligence, Surveillance, Reconnaissance, Targeting



INTELLIGENT SURVEILLANCE

COASTAL SURVEILLANCE

Coastal radar and long-range sensors combine to cover large areas of open water and create virtual perimeters that detect and track anything entering the border zone, and assess the threat level instantly.

Border security and coastal surveillance are 24/7 operations that can't afford downtime or periods of reduced readiness. Guarding against illegal immigration, smuggling, and terrorism demands reliable long-range threat detection and positive identification of potential threats all day, all night, and in all conditions.

Inbound threats come from land, on the sea, and in the air. With Teledyne FLIR's powerful border surveillance solutions, earlier detection and intelligent threat assessment mean greater coverage and faster response without increasing workload.

Whether your primary targets are small boats on the water, or people crossing borders on foot, Teledyne FLIR's high performance cameras and radars can give you the early warning and threat assessment you need to respond efficiently and effectively. With industry standard interfaces, Teledyne FLIR components are easy to integrate with the command and control solution you desire to create the rapid deployment solution you need.



CRITICAL INFRASTRUCTURE PROTECTION

By integrating radar, sonar and multispectral imaging, see beyond the perimeter of critical infrastructure facilities to stop suspicious activity before it gets close.

MOUNTAINOUS BORDER SURVEILLANCE

Overcome challenging terrain and provide persistent surveillance using a combination of tactical vehicles and networked ground surveillance assets.

DESERT SURVEILLANCE

Land-based radars, mobile surveillance vehicles, and networked multispectral surveillance systems provide total situational awareness and early detection in the most challenging environments.

MOBILE

The mission of securing a nation's borders is challenging for many reasons, chief among them is the sheer size of the area that needs to be effectively monitored and patrolled. Vehicle-based platforms need to be able to operate independently, while still integrating with a central command-and-control facility so that sector commanders can reposition their border security assets as the tactical situation demands. Teledyne FLIR border vehicle solutions do all this and more with modular, configurable sensors to match the mission.





LVSS

The skid-based LVSS is the next generation mobile surveillance solution. It converts a full-sized commercial pickup into a rapidly deployable command and control center. Protecting vast, remote borders, shorelines, and forward-operating bases requires speed, mobility and flexibility. Maximizing the power of a limited number of personnel is also critical. With radar and EO/IR cameras mounted to its 16-foot mast, LVSS provides efficient surveillance coverage throughout your mission to guard against smuggling, terrorism, and illegal immigration — day and night.



LTV-X

The Light Tactical Vehicle (LTV-X) from Teledyne FLIR is a light, agile – yet powerful – mobile imaging and radar platform. A tactical mobile surveillance platform, LTV-X gets operators into position and gives them clear situational awareness all day, all night, and from extreme ranges. Combining ground surveillance radar with multispectral imaging, LTV-X can detect threats out to 10 kilometers away, and accurately assess their intent. Its integrated command and control capability lets operators work independently and feed real-time imagery back to their command center.



CERBERUS

Cerberus® is a rugged, trailer-based integrated long-range mobile surveillance system that rapidly deploys in austere and challenging environments to provide unmanned remote perimeter surveillance for weeks at a time. Built to support force protection, border surveillance, ISR, and target tracking as well as long-range perimeter security, Cerberus integrates radar and visible/thermal camera payloads ranging up to 30 km with slew-to-cue of cameras to radar tracks.



SKYWATCH

Rising over two stories, SkyWatch® is a mobile surveillance and deterrence tower that gives the upper-hand. The rugged, highly-reinforced SkyWatch is a proven mobile surveillance platform that can withstand 60 mph winds while keeping the operator safe, comfortable, and focused. Portable and rapidly deployable, it provides a strategic perspective and symbolic deterrent.

RADARS

Understanding the nature of a threat is critical to intercepting and defeating it. Teledyne FLIR's ground surveillance radars detect and track multiple threats simultaneously, providing precise location, heading and speed details. Covering areas beyond the fence line, security personnel can monitor and control their security zone by intercepting threats before they can cause harm. With next-generation FMCW technology in a ruggedized, MIL-spec design, Teledyne FLIR radars deliver exceptionally fast class leading target detection and acquisition performance.





ARGUS

Argus is a fixed, rugged, preconfigured wide area surveillance system. Combining a best-in-class radar with a thermal imager and Command and Control software, Argus is designed to detect, assess, and track multiple threats in the most demanding weather conditions 24 hours a day, 7 days a week. When compared to other perimeter security solutions, Argus has the lowest initial cost per kilometer of secured space as well as the lowest lifetime cost.



RANGER® R6SS & R8SS

The mid-range, man-portable Teledyne FLIR Ranger® R6SS and R8SS radars detect and track personnel and vehicles within 15km ranges, and detect up to 512 threats simultaneously. Light and small, the R6SS and R8SS fit in a backpack or are easily mounted to a vehicle or permanent structure as part of an integrated solution. With a pan tilt mount, the Ranger panel radars can scan a full 360° every second for complete perimeter security.



RANGER® R8SS-3D

The man-portable Teledyne FLIR Ranger® R8SS-3D has the vertical coverage, low minimum detection velocity, and algorithms to detect and track up to 512 threats simultaneously, including drones, while filtering bird detections. The system can monitor the coverage area 4x per second, running 24/7, detecting all ground and aerial threats in virtually any climate, day and night. Compact and lightweight, it fits in a backpack, draws only 85W, and can integrate with other sensors, while costing much less than its vehicle-sized counterparts.



RANGER® R20SS LAND/COASTAL

The Ranger® R20SS is a ground and coastal surveillance radar specifically designed to detect and track personnel and vehicles at distances up to 28 kilometers. The R20SS-3D has vertical coverage, low minimum detection velocity and can monitor the coverage area up to four times per second, running 24/7. Its automatic target classification filters out unwanted targets and focuses on potential threats. The Ranger R20SS utilizes advanced tracking algorithms which enable fast detection and track initiation resulting in highly accurate target location with a low false alarm rate. The system operates in the X-band for all weather operation and can be vehicle-mounted or stationary.



RANGER® R1, R3, R5, R3D, R5D

The Ranger perimeter surveillance radars provide accurate, high resolution detection of vehicles and personnel. Designed to perform in the most demanding environments, they provide 24/7 security to ranges of up to 5Km. Scanning as much as a full 360 degrees every second they can effectively monitor up to 78 square kilometers (30 square miles). These radars also feature Doppler Staring mode, which significantly increases detection range. Multiple units can be installed with overlapping coverage to protect the larger areas required for border security missions, and are easily networked to form a single integrated system with other sensors and command and control systems. By leveraging the radar's advantage in detecting intruders, pan-tilt-zoom (PTZ) cameras can focus on their strength – identifying and assessing those threats – for a more efficient and cost effective solution.



GIMBALS

Detecting a potential threat is just the first step. Once an object of interest is detected, it must be identified, and its threat level assessed. Without clear, long-range visual analysis of detected threats on land or water, operators can't discern between false or nuisance alarms and alerts that require interdiction. As the world leader in thermal imaging, Teledyne FLIR extends your vision with crisp, clear thermal and visible imagery to give you the information you need to respond.



TACFLIR® 380-HD

The world's most capable all-digital, fully high definition system under 100 lbs, providing thermal, visible, and SWIR imagery along with superior image stabilization, ultra long range imaging performance, and true metadata embedded in the digital video. A single LRU system, the 380-HD is easy to integrate into a variety of towers and vehicles, providing persistent surveillance over the largest patrol areas.



TACFLIR® 280-HDEP

TacFLIR 280-HD is a high-performance land-based imaging system designed to identify and track smugglers, terrorists, or any other threat – day and night, and in the toughest terrain. Tailored for mobile deployment with high-definition imaging and powerful optics, TacFLIR 280-HD reveals the details necessary for long-range vehicle detection, identification, and threat assessment, and provides operators greater standoff.



TACFLIR® 240

TacFLIR 240 has best in class EO/IR imagery, including HD MWIR thermal camera, HD CMOS viable and low light camera options, a lightweight turret, superior image processing, and stabilization. The system also brings a new onscreen user interface (UI) that is customizable based on mission or operator preferences, minimizes distraction and eliminates clutter in the active screen.



TACFLIR® 240-EP

TacFLIR 240-EP is an advanced land-based sensor designed to meet a variety of applications for military and federal law enforcement. Containing the same HD payload options within its lightweight stabilized turret as the TacFLIR 240, but also Extensible Processing (EP) capabilities which are hosted by the Control Electronics Unit (CEU). The system offers an optional removable 1 Terabyte Solid State Drive DVR, useful for video recording, still image capture and post mission analysis.



TACFLIR® 230

The Tac FLIR 230 provides maximum sensor range performance including a high-resolution color zoom TV camera with low light capability, a powerful 640 x 480 cooled MWIR thermal camera with 18x total magnification, and optional laser pointer and range finder. At 41 pounds and with a nine-inch diameter, the TacFLIR 230 is optimized for mobility and easily deployed with extendable masts and gyro-stabilized for on-the-move operations.

A Teledyne FLIR thermal imager is mounted on a complex metal gimbal structure. The imager has a large lens and a smaller display screen. The background is a bright, cloudy sky. The overall scene is a low-angle shot looking up at the equipment.

IMAGERS

Our reliable and mission-proven gimbals enable operators to quickly distinguish between true threats and false alarms regardless of environment. Our systems can give the early warning and threat assessment needed to respond efficiently and effectively. With industry standard interfaces, our components are easy to integrate with a command and control solution to create the rapid deployment solution essential to mission success. Teledyne FLIR systems combine performance, coverage, and reliability to create the most efficient solutions for border or force protection on the market today.



PAN/TILT LONG-RANGE MULTI-SENSORS

Ranger® HDC and HRC thermal imaging systems offer extended range performance with HD (1280x720) or high-resolution (640x480) midwave sensors and powerful continuous-zoom telescopes. Available standalone or integrated with visible cameras, laser rangefinder, digital magnetic compass, and robust pan/tilt platform, the Ranger family of sensors provides precision geolocation and superior reliability. The HDC-MS also provides a pole configuration option to support integration with a radar system.



PAN/TILT MEDIUM-RANGE MULTI-SENSOR

The Ranger® MS-UC DefendIR is an industry leading mid-range thermal imager utilizing continuous zoom thermal and optical lenses, a 640 x 480 array uncooled VOx detector, 26x zoom CCD color camera and an optional 12 million-candlepower (MCP) spotlight. Innovative VisionSense™ technology offers user-controlled blending of the visible and infrared cameras, providing greater threat detail. Easily integrated into existing fiber, wireless or IP networks, and with VMD, radar, UGS or other trigger sensors, DefendIR delivers a powerful, flexible “slew to cue” solution.



PAN/TILT PORTABLE & LONG-RANGE MULTI-SENSOR WITH SPOTLIGHT

The Ranger MS-LRTI deterrence system is equipped with a day/low-light CCD camera and cooled InSb thermal imager and adds a high-power spotlight to detect, deter and temporarily disorient intruders. The 12 million candlepower spotlight can illuminate trespassers within a one-mile radius. With continuous thermal optical zoom, the Ranger MS-LRTI meets the requirements for any mission, from wide-area surveillance to long-range threat identification.



SUMIT360™

The SUMIT360 provides armored vehicle operators with an innovative, 360 degree view of the environment around the vehicle utilizing advanced sensor technology to improve threat and obstacle detection that could pose a threat to ground forces, and their mission. Equipped with powerful multi-spectral sensors in each module, the system uses on-board processing to form seamless, stitched images to provide a full field of view in any terrain, and virtually any conditions, day or night.



RANGER® HDC MR COOLED/UNCOOLED

The Ranger HDC MR sets a new standard for perimeter security applications, border surveillance and force protection. The system has a unique ability to mitigate degraded weather conditions with fog and turbulence filters, and can provide increased uptime and reduce cyber risks. Includes an HD thermal imager with either a 1280 x 720 cooled detector or a 1024 x 576 uncooled detector along with a 1920 x 1080 HD Color TV camera, and is designed for slew to cue integration with other sensors such as radars, making it ideal for C-UAS.

A person in a military-style uniform is seen from behind, sitting at a control station. The station features several large monitors. The top-left monitor shows a 3D topographical map of a city. The top-right monitor shows a security camera feed of a parking lot with cars and a person walking, with a digital display showing 'AZ: 251.3°'. Below these, there are more camera feeds showing an indoor facility. The central monitor displays a schematic diagram with labels 'MAIN', 'HVAC', and 'CHECKPOINT'.

COMMAND & CONTROL

All of the long-range imagers and radars won't help you keep your borders secure if field operators and sector commanders can't view the information they provide and coordinate the movement of forces accordingly. Our C2 software allows you to control and network multiple cameras and radars to operate efficiently and effectively over wide areas.





HANDHELDS

Teledyne FLIR's handheld imagers are lightweight, powerful, and easy to use, making those responsible for border surveillance more capable and more agile on their frontiers than ever before. The Recon® series of thermal binoculars and monoculars can combine longer range imaging with enhanced features like hot-swappable batteries, laser rangefinders, a digital magnetic compass, and up to 10x optical zoom for target identification at greater standoff range.



RECON® V

The Recon V is a compact, rugged, easy to use, lightweight multi-sensor thermal binocular designed for 24/7 field operations that require enhanced imagery and long standoff range performance. Its internal GPS, DMC, and long-range laser rangefinder provide accurate range to target as well as precise target location. The 10x continuous zoom optic, MEMS-based electronic stabilization, and high definition color video display combine to provide unmatched image quality and flexibility.



RECON® V ULTRA LITE

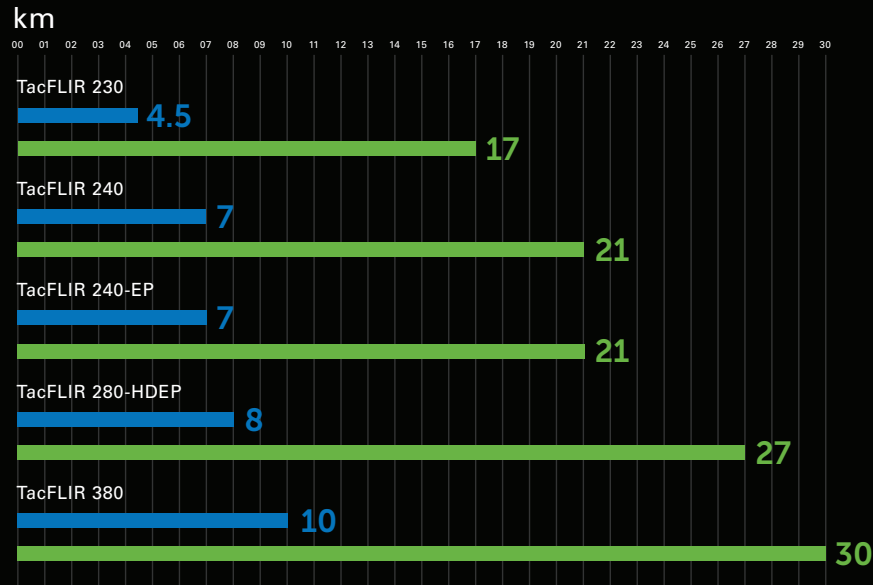
Fully operational at less than three pounds, the Recon V Ultra Lite provides mid-range target detection, recognition, recording and geo-location with an HD color camera and digitally zoomed multiple FOV thermal channels. Powered by commercially available AA batteries, the unit has a run time greater than four hours with smart power management. With day and night capabilities, a quick-shot laser range finder instantly generates target geo-location data to accompany imagery that can be shared with ground forces through Bluetooth, WiFi or hardwired USB connections to peripheral device for acute situational awareness.



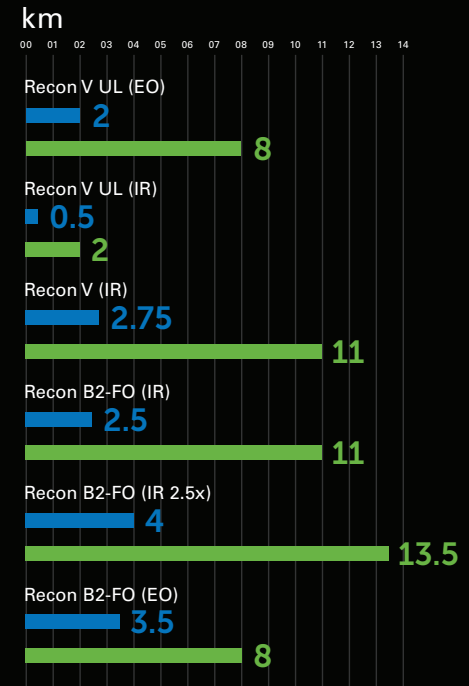
RECON® B2-FO

The Recon B2-FO offers long range reconnaissance and target geo-location capability with options for up to three fields of view, mid-wave and long-wave IR sensors, 4x continuous zoom, GPS, DMC, laser rangefinder, laser pointer and on-screen mapping, image storage and download capability, color CCD video day channel, tripod base, remote control, power and video options. Weighs 8 lbs (3.6 kg) or less.

GIMBALS



HANDHELDS



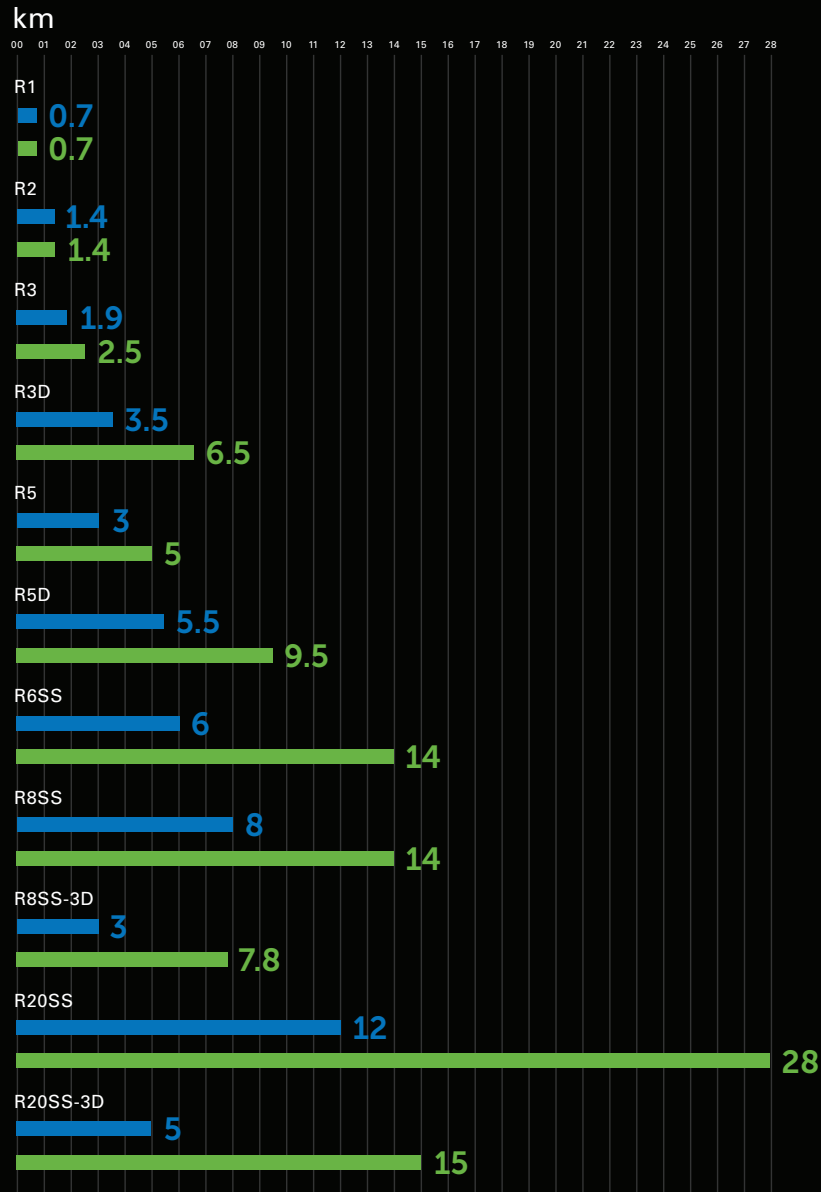
RANGE PERFORMANCE

System calculations in kilometers*

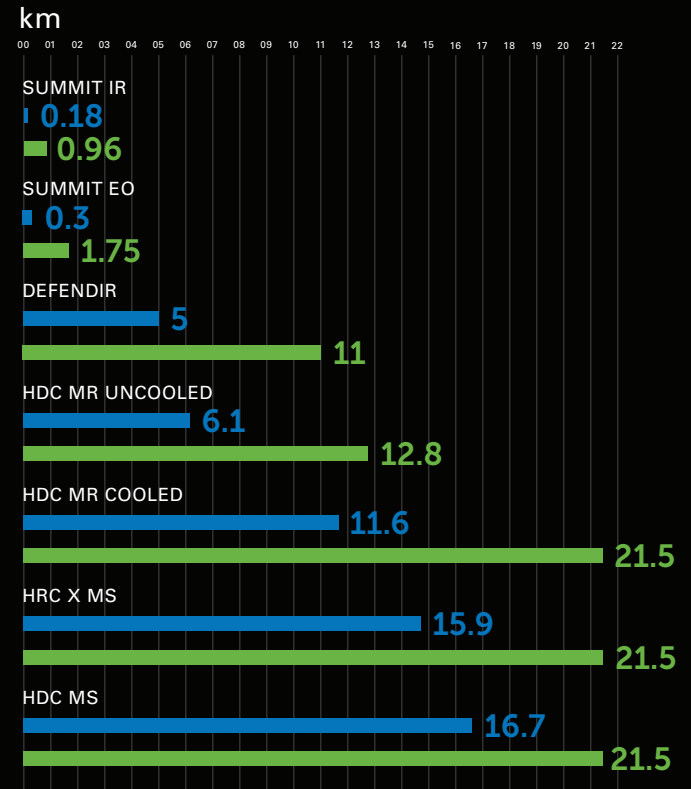
■ PERSON
 ■ LARGE VEHICLE

*Range values represent optimal performance, which will vary depending on target size, thermal contrast, atmospheric conditions and sensor operational settings.

RADARS



SENSORS







AMERICAS

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