Ladar (TL9)

This high-resolution sensor emits laser energy, then analyzes the returned signal to build up a picture of the user's surroundings. A ladar can discern a target's size and shape, and pick out other physical details, such as the shape of a face. It can't determine flat detail such as writing. Anyone who can sense the signal you emit can detect the ladar, out to twice its own range.

Ladars are of limited use in detecting unknown targets due to the narrowness of the beam – make an Electronics Operation (Sensors) roll at -4 to spot a previously unknown target. However, they are excellent for identifying targets that have already been spotted by other sensors (roll at +4, even to detect fine detail such as a face).

Ladar can be used to "lock onto" a target that has already been detected. This determines its precise range and speed, and gives +3 to hit that target with an aimed ranged attack. This bonus is not cumulative with that from other active sensors that have locked onto the target.

Ordinary radar detectors do not detect ladar; specialized laser sensors (pp. 62, 188) are required. Ladar cannot penetrate solid objects. It has 10-50% range in falling rain or snow, and can be tuned to use blue-green frequencies. It functions at 1% range underwater, with an maximum range of 200 yards.

Large Ladar (TL9): A powerful ladar, usually vehicle-mounted. It has a 100-mile range (200 mi. at TL10, 500 mi. at TL11, 1,000 mi. at TL12). $200,000, 100 lbs., D/8 hr. LC4.

Medium Ladar (TL9): A portable ladar set. It can be worn as a pack, or mounted on a tripod, vehicle, or robot. It has a 30-mile range (60 mi. at TL10, 150 mi. at TL11, 300 mi. at TL12). $20,000, 10 lbs., C/8 hr. LC4.

Small Ladar (TL9): A mini ladar with a 10-mile range (20 mi. at TL10, 50 mi. at TL11, 100 mi. at TL12). It comes in a hand-held version, or attaches to a shoulder mount (p. 151), and plugs into a HUD (p. 24). $2,000, 1 lb., B/8 hr. LC4.

Small, Medium, or Large Tactical Ladar (TL9): A military-style target-acquisition ladar. It can track up to 10 targets at once out to the listed range, and gives +3 to hit any of them with an aimed attack. Cost is 5 times normal. LC2.

SECURITY SCAN
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WEAPONS DETECTED

AMMUNITION
10MM APDS

FIREARM

EMP EXPLOSIVE

Ladar Smartskin (TL9)

This is a phased array ladar integrated into the vehicle's surface area. It functions as a tactical ladar with a range specified in the vehicle's description, and as a laser communicator (p. 44) with a range equal to its detection range.

Tactical Ladar Arrays: These have an "optical countermeasures" mode – see *Blinding Lasers* (pp. 113-114). Weight and cost are included in the vehicle statistics; the array can't be added later.

Laser Chemscanner (TL9)

Chemicals absorb laser energy at known wavelengths. This system uses a laser to detect airborne chemical compounds, as well as surface contaminants such as a slick of chemicals coating an object or the ground. It is most often used to identify chemical weapons or pollution levels in the atmosphere. It can also analyze the light scattered from swarms of microbots or nanomachines that are too small to otherwise resolve, identifying them by matching the patterns with known models.

A dedicated laser chemscanner is half as expensive as a ladar, but has twice the range. A chemscanner mode for a ladar adds 20% to its cost.

Multi-Mode Radar (TL9)

This provides a search mode for locating potential targets, and an imaging mode for identifying them as they get closer. The GM can assume that most moving targets that fit the radar's criteria are detected automatically. If a target is using radar countermeasures or being stealthy, the GM can require an Electronic Operation (Sensors) skill roll, or a quick contest of skill between the radar operator and the target's Stealth.

Search Radar: This searches a fan-shaped, 120-degree area in front of the user, hunting for rat-sized or larger moving targets and displaying them as blips on a screen. Darkness, smoke and bad weather do not impair it, but it cannot see over the horizon or through solid obstacles. It provides a digital readout of target speed, altitude, position, and approximate size. This mode is good for tracking vehicle-sized or larger targets, or any moving targets. It can't distinguish a moving human from a moving animal or robot of similar size. Background items make spotting stationary human-sized or smaller objects on the ground virtually impossible in anything but open terrain. Non-moving targets are impossible to distinguish from ground clutter unless the user has seen that particular "blip" moving.