



Technology 084: Foscomm Fiber Optic Perimeter Detection

The Foscomm Fiber Optic Perimeter Detection System, is a novel fiber optic perimeter detection system utilizing plastic fiber optic sensor technology to detect intrusion over outdoor fences. Foscomm's solution can be installed in parallel over existing fences and are both cut and bend sensitive. Physical perturbations such as bending, stretching, widening, or cutting caused by intruders are precisely detected, ignoring any environmental distortion.

Foscomm developed his perimeter security solution to address key market pains observed in the industry.

- ❖ Nuisance Alarm Rates (NAR)
- ❖ False Alarm Rates (FAR)
- ❖ Maintenance and Upkeep – Significantly reduced through the utilization of improved plastic optical cables which are easily repaired without the need for complicated fiber optic fusion splicing.
- ❖ Installation - The system is able to be deployed over the top of, and in conjunction with, existing systems alleviating the need for extensive reengineering.



Market Status:

- ❖ The Foscomm system is installed in over 15 installations in Korea over a 5 year period. At this stage in the development of the company, Foscomm is looking to expand into new geographic markets through security integrators and/or security fence companies.

IP Status

The Foscomm system is protected by the following patents:

- ❖ Optical connection of fiber optic cable to the emitter/sensor – Korea granted, PCT
- ❖ Clipping mechanism of cable to posts to ensure proper system function without messing up cable – Korea
- ❖ Overall fiber optic detection system – Korea, US/PCT

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Global Commercialization Group

WHAT STARTS HERE CHANGES THE WORLD

July 16, 2009

On July 12th Sloan Security Group personnel commenced to testing the Foscomm Rayfort Fiber-Optic Based Security System located at the Sloan Security Group Facility at 6851 W. Targee St. Boise, ID, USA. The Foscomm system is installed as a 1m long outrigger structure on a 6' tall chain link fence that is approximately 3 years old. The fence is constructed of galvanized tubular posts (2 3/8" dia.) and top rail (1 5/8" dia.) in a heavy commercial-grade design. Also installed on the opposite side of this same chain link fencing is an 8' tall electrified intrusion detection system. The Foscomm System is installed on approximately 165 lineal feet of fencing and during this distance the fence turns two corners and changes from a 45 degree outrigger to a vertical outrigger.

Testing Environment:

Testing was carried out on the afternoon of July 13th, 2009 in warm temperatures between 23 and 26 degrees F with little to no wind. Elevation of the location is approximately 2800 Ft with <40% humidity.

Detection via Spreading:

Utilizing a tape measure, the distance between sensor cables (14.25cm) was measured at rest and then at alarm when force was applied via the tester's hand placed in the middle of the span. The sensor cable was spread downward until the alarm sounded. Over the course of 5 attempts the measurements of the change in gap were as follows: 5.25cm, 5.5cm, 5.75, 5cm and 5.5cm for an average of 5.5 cm.

Detection weight testing:

As weight was applied to the span of sensor cable utilizing a 22kg rated fish scale, the weight was measured and noted. The weights ranged from 4-7 kg and averaged 5.1kg. Data points included 4Kg, 4.5Kg, 6kg, 7kg, 4kg.

Detection time lapse:

As the previous testing was accomplished, time to alarm was tracked and varied from 2-2.5 seconds from the time of pressure application to alarm.

False Alarm Detection Testing:**Vehicular vibration testing:**

A Ford F-150 4x4 truck weighing 3,400kg was driven along the fence line repeatedly to create sufficient vibration to cause an alarm. Even though the vehicle was within 3' of the fence line and then had forcefully brakes applied to create additional vibration, no alarms occurred. This test was carried out 10 times.



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Rainfall detection testing:

To test for rain-caused false alarms, a five gallon bucket of water was repeatedly dumped on areas of the fence line to attempt to model the effects of a heavy rainstorm on the system. The areas tested included the control box, individual sensor cables, multiple sensor cables, and sensor cable termination points. No alarms were generated despite significant effort.

For additional testing please feel free to contact me.

Securely,

A handwritten signature in black ink, appearing to read 'Collin Sloan', is written over a light blue grid background.

Collin Sloan
VP Sloan Security Group