

TARGET POINTING SYSTEM INSTALLED ONBOARD A TERRESTRIAL VEHICLE

Main Technological Area —> Sensors, optoelectronics

Keywords —> View | Targeting | Aiming | Firing | Tracking | Video

A stabilized aiming system that can be controlled via joystick from inside the moving vehicle. Normally the stabilization system tends to maintain the aim even if the vehicle moves on rough terrain, but in any case it is also necessary to maintain the control of the joystick by the operator.

TECHNICAL SPECIFICATIONS

In the operating condition of tracking a target on rough terrain, the joystick lever is subject to accidental movements caused by the shaking produced by the vehicle while on the move. In these conditions, therefore, the operator is obliged to manually compensate the movements induced on the joystick lever in order to maintain target tracking, this last condition being extremely difficult when the target to be followed has a steady angular motion.

This difficulty manifests itself as a state of tension for the operator that, as times passes, causes an involuntary increase in the inaccuracy in aiming at the target.

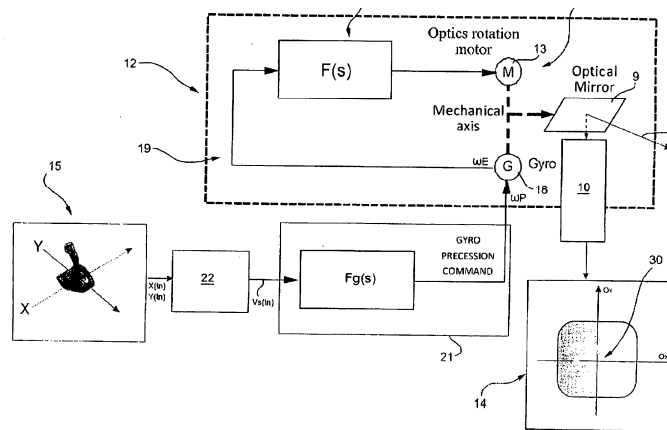


Figure 1 – Simplified block diagram

The different servo-controlled systems that carry out the aiming, which are the object of the patented solution, are configured to apply adaptive filters to sudden joystick movements. These filters are designed to adapt the response of the control system to the operating conditions. In support of this aiming system it is possible to provide other systems, such as a rangefinder or a ballistic calculator.

INNOVATION/ADVANTAGES

Benefits:

- Improvement of situation awareness in the operational scenario
- Simplification of the man-machine interface for a more accurate aiming of the optronic system
- Increase in comfort and decrease in reaction times by the operator
- Possibility to easily retrofit existing systems

The activities related to the aforementioned points can benefit from the innovations introduced in the patent when carried out on the ground, on mobile vehicles or in difficult conditions (e.g. walking on difficult terrain) and when using some forms of remote control via joystick or other tools.

FIELDS OF APPLICATION

<i>Optoelectronics</i>	Stabilization and processing of video signals (visible, IR, multispectral)
<i>Police forces, public safety</i>	Long range aiming and shooting systems in operative scenario on board of armoured vehicles
<i>Hunting</i>	Advanced instruments for hunting (es. Safari)
<i>Simulation/Videogames</i>	Realtime processing in 3D simulated scenario
<i>Cinematography</i>	Documentaries, action scenes, remote controlled steadycams

PATENT INFORMATION

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Active worldwide applications

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National Extensions: Czech Republic – Germany – France – Italy – Belgium - United Kingdom – Austria – Turkey

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