

Forestry/Wildfire

Representative Patent 04

❖ Title of Invention : **Apparatus for accuracy position determination and method for accuracy position determination on woodland using thereof**

❖ Application Number. : KR2015-0161563

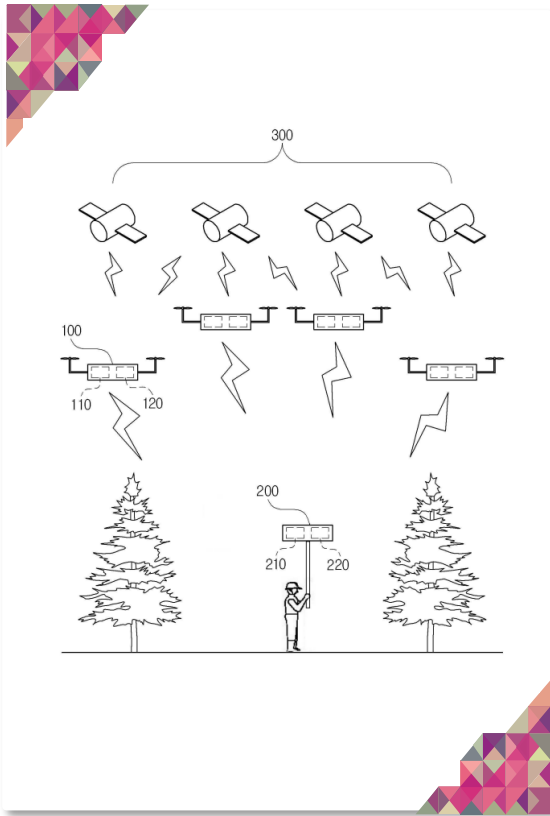
Application of Technology and Field of Use

- ◆ Search and investigation using unmanned aerial vehicles
- ◆ Error occurring in observation position depending on terrain features when searching using unmanned aerial

- Due to the terrain features around a receiver, a signal transmitted from the satellite is refracted and reflected so that it is received in multiple paths.
- If a multi-path error occurs, the radio wave is refracted and reflected, resulting in an error in the direction and distance in which the radio wave is transmitted.

Features of Technology

- A first broadband signal module and a GPS receiver are attached
- A plurality of unmanned aerial vehicles flying in the sky and a terminal provided at a predetermined position to determine its own position through communication with the first broadband signal module



<Representative drawing>

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Technical Effects

◆ Minimization of error due to multipath signal

- Since GPS and broadband signals are used in parallel, precise positioning is possible within an error range of 20cm in the forest.

◆ Convenient operation

- By attaching a GPS receiver and a broadband signal module to a conventional unmanned aerial vehicle, the technology can be used.

Social, Environmental, Economical Effects



◆ Possible to reduce costs for multipath signal correction

- It is possible to reduce costs by using the GPS receiver and the broadband signal module instead of using a conventional narrowband correlator or a separate antenna to correct a multipath signal.

◆ Useful for geodetic and surveying in areas with many tall structures such as forests and city centers

- It can be easily applied to the surveying of forest and mountain areas.
- It can be used to mark the location of the hiking trail in the mountainous area.

◆ Possibility of use for lifesaving and rescue of survivors in mountainous areas

- By lending a specific terminal to a climber and finding the location of the terminal when the person is in trouble, it can be to utilize it for easy rescue.