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(54) Title: GIMBAL STABILISATION SYSTEM

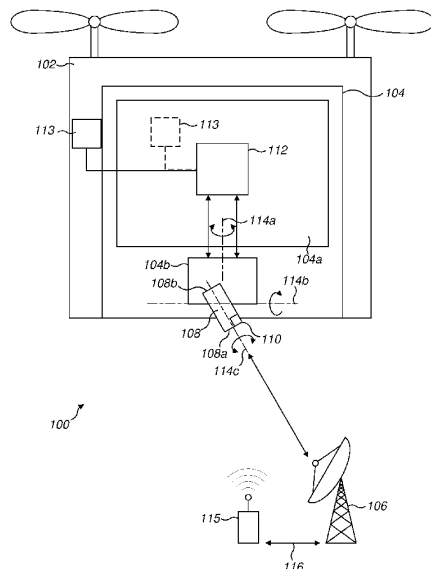


FIG. 1a

(57) Abstract: Methods, apparatus, and systems are provided for controlling a payload of a gimbal stabilisation system for an aircraft during testing an antenna under test (AUT). The gimbal stabilisation system including a payload control assembly coupled via a yaw motor to a gimbal assembly. The gimbal assembly including the payload comprising a first section with a transceiver for use in testing the AUT and a second section rotatably coupled to the gimbal assembly. The payload control assembly including a controller configured to operate the yaw motor and gimbal assembly by: receiving an in-flight position of the aircraft during testing of the AUT; receiving a position of the AUT in relation to the aircraft; and controlling the gimbal assembly by: calculating a pointing direction and alignment of the first section of the payload relative to the AUT based on the received position of the aircraft and the received position of the AUT; and maintaining pointing and alignment of the first section of the payload towards the AUT based on the calculated pointing direction and alignment of the first section of the payload.

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