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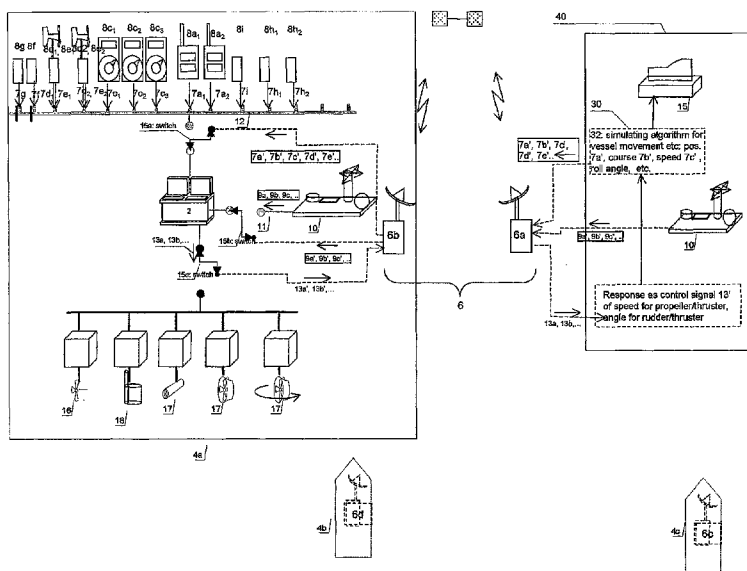
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(54) Title: SYSTEM AND METHOD FOR TESTING A CONTROL SYSTEM OF A MARINE VESSEL



(57) Abstract: A system for testing a control system (2) in a vessel (4), in which the control system (2) is arranged to control and monitor the vessel (4), comprising the following features: one or more sensors (8) on board the vessel (4) to send one or more sensor signals (7) over a signal line (12) to the control system (2); command input devices (10) on board the vessel (4) arranged to send one or more of desired position, course, velocity, (9) etc. over a command signal line (11) to the control system (2); an algorithm (31) in the control system (2) for the computation of control signals (13) to the vessel actuators (3) on basis of the sensor data (7), the command signals (9), for sending of the control signals (13) over a signal line (14) to the actuators (3); one or more communication lines (6) for sending of one or more simulated signals (7') and/or simulated command signals (9') from a

remote test laboratory (40) to the control system (2); a simulator (30) including and algorithm (32) for the simulation of the new dynamic state (7') of a vessel model (4') based on a previous state (7, 7'), the control signals (13, 13'), and the dynamic parameters (5) of the vessel (4); where the communication line (6) is arranged for sending back the new simulated state of the vessel model (4') in the form of simulated sensor signals (7') to the control system (2), for continued computation in the control system (2) on basis of the real and/or simulated sensor signals (7, 7') or real and/or simulated command signals (9, 9'), of the control signals (13) to achieve at least one of desired position, course, velocity etc.; and where the communication line (6) is arranged for sending the response from the control system (2) in the form of control signals (13) and control signals (13') to the remote test laboratory (40).

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