ACTIVE SIDE STICK UNIT

COMBINE THE COMPACT SIZE OF A SIDE STICK WITH INTUITIVE AND ACTIVE FEEDBACK FROM THE AIRCRAFT

An Electromechanical Flight Control Interface

- Active feedback from the aircraft to protect the flight envelope
- Pilot / Copilot stick linked over entire flight for better crew coordination
- Pilot / Instructor interaction during training flights
- The most important breakthrough in the decade for flight controls
ACTIVE SIDE STICK UNIT

Combine the compact size of a side stick with intuitive and active feedback from the aircraft

Active Side Stick offers dynamic force feel control over the whole flight envelope with more advantages than the passive Side Stick.

The Active Side Stick Unit control system monitors and can react to vibrations to ensure the aircraft is kept within the defined flight envelope. As a result, pilots can always get the maximum performance out of the aircraft without running the risk of exceeding safety margins. Furthermore, the Active Side Stick features instinctive Pilot/Copilot/Autopilot feedbacks, greatly improving Situational Awareness and Cockpit Resource Management.

Hand Grip

- Commercial Off The Shelf interface or custom made

Number of axis

- Fixed wing: 2 (Pitch & Roll) or 3 (Pitch, Roll & Yaw)
- Rotary wing: 1 (collective) or 2 (cyclic) or 3 (cyclic & Yaw)

Product Form Factor

- Available in parallel or coaxial architecture to allow several configurations

Performs the following Passive functions

- Copies the angles of the stick displacements (up to 20°)
- Provides a restoring force to the neutral position

Performs the following Active functions

- Applies in real time computed efforts
- Set the current neutral position provided by the FCC (Flight Control Computer)
- Coupling mode
- Triplex/Quadruplex resolvers Interfaces

Adaptable to Safran Electronics & Defense Flight Control Computer or existing FCC Solutions

- High availability solution (>10^-6 for nominal feel force)
- Strong safety constraints (<10^-10 for jamming)
- Torque motors power control loop

Highest Safety standards for single pilot operation

- Adjustable between 0° to 20°

Range of Motion

- Maximum force : up to 120N (26 lbf)
- Minimum force : 0.5N (0.11 lbf)
- Programmable force gradient and damping - as required
- Programmable neutral position (trim function)
- Shaker, Puller, Pusher function in both pitch and/or roll
- Adjustable between 0° to 20°

Force features

- Width < 100 mm (3.94 inches)
- Limit mechanical load 500N (112 lbf)
- Electromechanical part with weight target < 12 Kg (22 lb)

Mechanical features

Active side stick rely on an electronic unit based on common building blocks with Flight Control Computers of the same safety criticality.

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