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(54) Title: TCAS DISPLAY AND SYSTEM FOR INTRA-FORMATION CONTROL WITH VERTICAL SPEED INDICATOR**(57) Abstract**

A display for presenting to a viewer the combined information outputs of a passive Traffic Alert and Collision Avoidance System (TCAS) and Mode-S transponder messages without the TCAS computer having to interrogate the transponders of the respective aircraft flying in formation (i.e., a passive TCAS). The display presents resolution advisories, traffic advisories, and other information for use by the flight crew. A TCAS computer and Mode-S transponder are used to provide distributed intra-formation control among multiple cells of aircraft flying in formation or close-in. The Mode-S transponder provides ADS-B Global Positioning System (GPS) squitter data to the TCAS computer; the TCAS computer receives and processes the data without having to interrogate the transponders of the multiple cells of aircraft. The display indicates the relative velocity of the other aircraft in addition to other types of information. Symbology is used to indicate the other aircraft flying in formation and relative information to allow the host aircraft to respond accordingly.

