

**INERTIAL FOUR GIMBALED DEMONSTRATOR, DEVICE 6D10****TRAINING CATEGORY:**

BASIC SCIENCE (2) (Physics Nuclear)

**ORIGINATING AGENCY:**

NAVTRASYSSEN

**SECURITY CLASSIFICATION:**

Device 6D10 is unclassified.

**FUNCTIONAL DESCRIPTION:**

The Inertial Four Gimbaled Demonstrator, Device 6D10 is used to demonstrate the action of gyro orientations, gimbal orientations, and velocity meter orientation. By manually positioning the gimbals, the senses inputs and outputs of the velocity meters and gyros may be demonstrated and with the use of associated loop diagrams, the maintaining of the proper orientation of the gimbals and inertial components may also be demonstrated.

The four (4) gimbals of the system are the pitch gimbal (outermost), the roll gimbal, heading gimbal, and the latitude gimbal (innermost). The roll gimbal and pitch gimbal are oriented to the ship's roll and pitch horizontal axis. The roll axis is fore and aft and the pitch axis being athwart ships. The heading gimbal is oriented to the local vertical and kept there by the action of the roll and pitch gimbal. The latitude gimbal is maintained at an angle of local latitude, the angle being that between the local horizontal and the latitude gimbal.

The three (3) gyros are oriented on the latitude gimbal such that their input axis will sense base motion of the ship, i.e., roll, pitch and yaw motion. The outputs of the gyros are used to drive the roll, pitch, and heading gimbals so that the local vertical and ships heading are maintained within specific tolerances.

**CONTRACT IDENTIFICATION:**

Naval Training Systems Center, Orlando, FL

**LOCAL STOCK NUMBER:**

6910-LL-C00-0275