

Welcome Aboard!



**USS COMPASS ISLAND
(AG-153)**

Although not as well known as some of the more glamorous fighting ships of the U. S. Navy, COMPASS ISLAND has played and continues to play a vital role in the Fleet Ballistic Missile Program (Polaris). Without the work of COMPASS ISLAND, there would have been no Polaris or Poseidon systems. This ship was commissioned into the Naval Service to assist in the development and evaluation of navigation systems that are entirely independent of shore based aids. The navigational systems which are currently installed in our Polaris submarines have been tested and evaluated on board COMPASS ISLAND. Together with representatives of the U. S. Naval Applied Science Laboratory and representatives of defense contractors, the officers and men of COMPASS ISLAND form a unique Navy development team. All hands on board contribute to this program in one way or another and each one willingly "pulls his weight in the boat." All are mindful of the importance of the job and press forward with dedication and determination. Our almost unbelievably accurate navigational systems are evidence of our success. All are proud to be a part of the Polaris and Poseidon teams.

We are very happy to have you visit on board with us so that you can see at first hand what we are doing.

JOSEPH E. BONDS
Captain, USN
Commanding Officer



**COMMANDING OFFICER
CAPT J. E. BONDS**



**EXECUTIVE OFFICER
CDR F. R. SALVA**

USS COMPASS ISLAND (AG-153)

COMPASS ISLAND was first placed in the merchant service as the S.S. GARDEN STATE MARINER. Built as a fast cargo ship, the GARDEN STATE made trips to North Africa and the Orient after her completion in 1953. The Navy acquired the ship from the U.S. Maritime Administration after the decision that a ship of this type would make the best test vehicle for precision navigation equipment.

The ship was converted by the New York Naval Shipyard and commissioned on 3 December 1956. The conversion included some "firsts" in the Navy. Roll stabilizers were installed which sense ship's roll and counteract it. While sister ships are rolling twenty degrees, COMPASS ISLAND, in the same seaway, will roll about two degrees—a 90% reduction. To further assist handling characteristics automatic steering is utilized.

The commissioning and placing in service of the COMPASS ISLAND was hailed as a milestone in the Navy's long-range missile program. Her primary mission is to advance the development of navigation systems for Polaris and Poseidon Fleet Ballistic Missile Submarines through operational research, development and evaluation. COMPASS ISLAND is especially suited to this mission because she provides the space, facilities, speed, cruising radius, stability, and sea-worthiness needed for the efficient pursuit of such studies.

The COMPASS ISLAND program is conducted under the general direction of Special Projects Office, Bureau of Weapons, and the technical direction of the Naval Applied Science Laboratory, New York Naval Shipyard. Close cooperation is maintained with vendors of navigational equipment and with other agencies, both private and governmental, who are actively contributing to the development of Polaris and Poseidon navigational systems.

COMPASS ISLAND is under the operational and administrative control of Commander, Submarine Force, U. S. Atlantic Fleet and is assigned to Submarine Flotilla TWO.

Although security requirements guard many accomplishments of the COMPASS ISLAND, much progress has been made in the development and improvement of the inertial navigation systems necessary for the missile launching submarines.

SPECIAL NAVIGATION EQUIPMENT ON BOARD

Ship's Inertial Navigation System (SINS)—Several methods complement each other in the missile launching submarine to provide a high order of accuracy in determining ship's position. The chief component of the submarine's navigational system is the Ship's Inertial Navigation System (SINS). The latter is a complex system of gyroscopes and accelerometers which measure ship's velocity in all directions. The system's output is a continuous record of ship's position and heading. COMPASS ISLAND carries three SINS systems. In addition COMPASS ISLAND has the Ships Self Contained Navigation System (SSCNS) an experimental Inertial Navigation system, under evaluation.

LORAN "C"—This navigational equipment provides accurate position information by measuring time differences in the reception of pulses generated by shore based transmitters. The transmitted pulses are automatically tracked and provide continuous position information. The LORAN "C" system provides accurate position information over a range of about 1600 miles. The ship has three LORAN "C" receivers.

SATELLITE NAVIGATION—Another means of providing highly accurate Navigational Position on COMPASS ISLAND is the AN/BRN 3 or TRANSIT SATELLITE Navigation system. COMPASS ISLAND utilizes the Transit System to complement the other Navigational Systems.

Other Navigational Equipment—Other navigational equipment installed on board COMPASS ISLAND includes various gyroscopes, computers and precision timing devices. New navigational equipment and procedures are evaluated and tested as they become available. COMPASS ISLAND is presently conducting extensive evaluation of the new Poseidon Navigational System.

Sea Navigation Center—This area is laid out in a manner similar to the primary navigational operating space aboard a Polaris submarine. In the Sea Navigation Center you will find practically all of the navigational equipments employed on board our Polaris submarines. In addition, the Sea Navigation Center houses prototype equipment which is undergoing extensive evaluation prior to installation on the submarines. Environmental conditions in the Sea Navigation Center are similar to those encountered on a submarine.

SHIP'S GENERAL CHARACTERISTICS

LENGTH OVERALL	563 Feet, 7 Inches
BREADTH	76 Feet
DRAFT	26 Feet
TONNAGE	17,960 Tons
CRUISING SPEED	18 Knots
HULL	Maritime Commission C4-S-1a (Mariner)
PROPULSION	17,500 HP, Steam, Reduction Gear Drive Single Screw
PERSONNEL	Officers — 18 Enlisted — 220 Civilian — 32

ROSTER OF OFFICERS

CAPT JOSEPH E. BONDS	Commanding Officer
CDR FEDOR R. SALVA	Executive Officer
LCDR CLIFTON M. HUSSEY	Special Projects Officer
LCDR JAMES E. REASON	First Lieutenant
LT FRANK V. WELTNER	Navigation Aids Officer
LT EDWARD F. HICKEY	Engineer Officer
LT LARRY H. LACOCK	Navigator-Operations Officer
LT CHARLES E. HUMPHREY	Supply Officer
LTJG PETER H. SIMPSON	Assistant Special Projects Officer
LTJG DAVID R. MONROE	Damage Control Assistant
LTJG ROSCOE V. EAKINS	Electrical Officer
LTJG EDWARD L. CASHIN	Disbursing Officer
LTJG FRANK J. SANTOPIETRO	Communications Officer
ENS JAMES A. DALY, Jr.	Administrative Assistant
ENS ALLEN A. SUNDBERG	Educational Services Officer
CWO-2 TERRENCE M. FOX	Electronics Material Officer
CWO-2 GERALD D. ENSMINGER	Inertial Navigation Officer
WO-1 KENNETH G. SHERBURNE	Main Propulsion Assistant
WO-1 LUIS CARGIULO	Ship's Boatswain

**ROSTER OF
CHIEF PETTY OFFICERS**



ETCM W. E. GOODNOW

ETCS L. J. CONKLIN

BMC H. H. LOCKE

ETC J. F. RIDDLE

ETC J. P. GREWE

MMC E. O. CHERNEY

EMC T. O. TERRY

BTC C. E. WRIGHT

CSC J. S. WHITCOMB

SDC R. HILTON