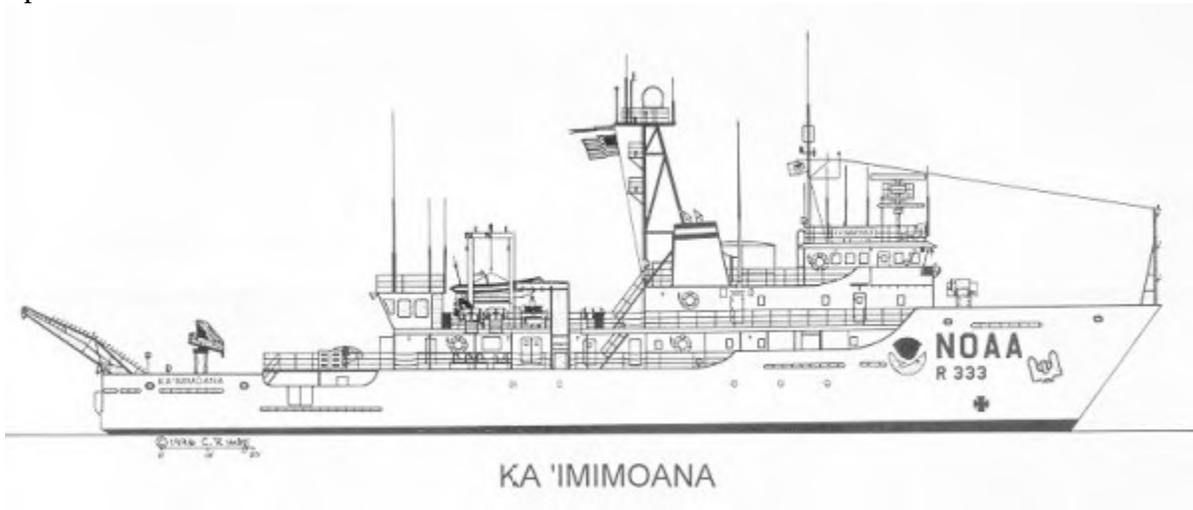


## KA'IMIMOANA

**KA'IMIMOANA** (Hawaiian for *The Ocean Seeker*) is used by the National Oceanic and Atmospheric Administration (NOAA) to improve our nations' understanding of the physical environment. **KA'IMIMOANA** is utilized primarily by NOAA's office of Ocean and Atmospheric Research (OAR) and is operated by NOAA Marine and Aviation Operations. **KA'IMIMOANA** was originally built as U.S. Naval Ship TITAN (T-AGOS 15) in 1989 by Halter Marine in Moss Point, Mississippi. TITAN was operated by the Military Sealift Command as an Ocean Surveillance Ship until her transfer to NOAA on August 31, 1993. Conversion to her present configuration began in May, 1995 at Maritime Contractors, Inc Shipyard in Bellingham, Washington, and she was redelivered to NOAA as **KA'IMIMOANA** in April 1996.



Line Drawing by Bob Hitz

### Design

- Builder: Halter Marine, Inc., Moss Point, Mississippi
- Launched: 1988
- Delivered to MSC: 1989
- Transferred to NOAA: August 31, 1993
- Commissioned by NOAA: April 25, 1996
- Hull Number: R333
- Call Letters: WTEU
- Home Port: Honolulu, Hawaii

- Length (LOA): 68.3 m (224 ft)
- Breadth (molded): 13.1 m (43 ft.)
- Draft, Maximum: 4.6 m (15 ft.)
- Hull: Welded steel/ice strengthened
- Displacement: 2,301 tons
- Gross Tonnage: 2,014
- Net Tonnage: 604

### **Speed & Endurance**

- Cruising Speed: 10.5 knots
- Range: 8,000 nmi
- Endurance: 30 days
- Endurance Constraint: Stability Ka'imimoana

### **Complement**

- Commissioned Officers: 7
- USPHS Medical Officer: 1
- Licensed Engineers: 3
- Crew: 13
- Scientists: 12 (Max)

### **Food Service Seating Capacity**

- Mess Room: 20

### **Berthing Capacity**

- Single Staterooms: 21

- Double Staterooms: 6
- Total Bunks: 33

### **Medical Facilities**

- Medical Treatment Room with one bunk; one USPHS Health Programs Officer.

### **Scientific Laboratory Facilities**

- Lab Space: 950 sq. ft.

### **Winches**

- Brailing Winch
  - Quantity: 2
  - Manufacturer: Markey
  - Model: WETG-60
  - Drive: Electric two speed/reversing motor, 15 HP
  - Warping Head: 18" diameter gypsy, horizontal axis
  - Pull:
    - ⌚ 10,000 lbs at 33 fpm
    - ⌚ 2,500 lbs at 132 fpm
  - Location: Aft working deck, port and starboard
- CTD Winch
  - Quantity: 1
  - Manufacturer: Markey
  - Model: DESH-5
  - Drive: Electric AC-SCR/DC Motor, 75 HP
  - Maximum Pull: 7,000 lbs mid-scope

- Drum Capacity: 10,000 m. of 0.322 in. conductor cable
- Location: 02 Deck

## Ka'imimoana

### **Cranes and Booms**

- Port Aft Working Deck Crane
  - Quantity: 1
  - Manufacturer: Hiab
  - Model: 450
  - Lifting Capacity:
    - ⌚ 4,000 lbs at 33' radius
    - ⌚ 5,200 lbs at 25' radius
    - ⌚ 8,000 lbs at 15' radius
  - Location: Aft Working Deck, Frame 93
- Starboard Aft Working Deck Crane
  - Quantity: 1
  - Type: Knuckle Telescopic Crane
  - Model: 40KTSC6500
  - Maximum Reach: 40 ft.
  - Lifting Capacity at Max Reach: 6, 500 lbs.
  - Location: Aft Working Deck, Frame 93, Starboard
- Midship Crane
  - Quantity: 1

- Manufacturer: Hiab
- Model: 120
- Lifting Capacity: 1,500 lbs at 21' radius
- Location: Upper Deck, Frame 65, Starboard

## **A and J Frames**

### **• A-Frame**

- Quantity: 1
- Safe working load: 20,000 lbs
- Sheave travel: 12 ft forward of the transom to 12 ft aft of the transom
- Vertical clearance: 28 ft between cross member and deck
- Horizontal clearance: 15 ft between legs at deck to 12 ft between legs at cross member
- Location: Stern

### **• J-Frame**

- Quantity: 1
- Safe working Load: 10,000 lbs
- Sheave travel: 6 ft inboard of the deck edge to 8 ft outboard of the deck edge
- Vertical clearance: 13 ft between cross member and deck, at the deck edge
- Location: Forecastle Deck, Starboard

## **Ground Tackle**

- Bower anchor
  - Quantity: 2
  - Type: Stockless
  - Weight (each): 3,500 lbs
- Anchor chain
  - Quantity: 2
  - Size and Type: 1 - 11/16 in. stud link
  - Length (each): 135 fathoms

## **Boats**

- Rescue Boat
  - Quantity: 1
  - Type: Rigid Hull Inflatable Boat (RHIB)
  - Manufacturer: Zodiac Hurricane
  - Length: 22' - 6"
  - Propulsion: 200 HP Volvo diesel outdrive

## **Engineering**

### **General**

- Cruising Speed: 10.5 knots
- Range: 8,000 nm
- Power: 1,600 SHP
- Fuel Capacity: 112,000 gals

- Fuel Consumption: 35 gal/hr/generator
- Fuel Type: #2 diesel marine
- Endurance: 30 days
- Endurance Constraint: Stability

### **Propulsion Plant**

- Type: Diesel Electric; 600 VAC, 60 Hz, 3Ø Generators, SCR Power Converters, DC Motors
- Main Propulsion Motors
  - Quantity: 2
  - Type: 750 VDC, Reversible
  - Manufacturer: General Electric
  - Model: 42G972
  - Rated Power (each): 800 HP
- Propellers
  - Quantity: 2
  - Size: 96 in diameter
  - Blades: 4, fixed pitch
  - Rotation: Inboard turning (one right hand, one left hand)
  - Shafts: 7.25 in diameter
- Bow Thruster
  - Quantity: 1
  - Type: Tunnel Thruster
  - Manufacturer: Schottel

- Model: S-300-L
- Motor: 750 VDC, Reversible
- Rated Power: 550 HP
- Diameter: 300 mm (51.2")
- Blades: 4

### **Freshwater System**

- Storage Capacity: 4,882 gals
- Average Daily Use: 2,000 gallons/day
- Average Production: 2,500 gallons/day
- Distilling Plant
  - Quantity: 2
  - Type: Waste heat recovery (generator jacket water)
  - Manufacturer: Alfa Laval Nirex
  - Model: JWP-36-125
  - Rated Capacity: 2,600 gpd

### **Pollution Control**

- Sewage Waste Control
  - Type: Collection, Holding & Transfer
  - Manufacturer: Omnipure
  - Holding Capacity: 6000 gallons
- Oily Waste Control

- Type: Oily Water Separator
- Manufacturer: Parmatic
- Model: S1-8-A
- Holding Capacity: 3000 gallons

## Electrical System

- Ship Service / Propulsion Generators
  - Quantity: 4
  - Type: Diesel
  - Manufacturer: Caterpillar
  - Model: D398TA
  - Rated Power (each): 600 kW
  - Output Voltage: 600 VAC, 60 Hz, 3Ø
  
- Ship Service Transformer
  - Quantity: 3
  - Rated Power: 500 kVA
  - Voltage: 600/450 VAC, 60 Hz, 3Ø
  
- "Clean Power" Motor Generator
  - Quantity: 2
  - Manufacturer: Kato
  - Model: K23952000
  - Rated Power: 200 kW
  - Motor: 300 Hp
  - Output Voltage: 450 VAC, 60 Hz, 3Ø
  
- Emergency Generator
  - Quantity: 1
  - Manufacturer: Caterpillar 3406TA
  - Rated Power: 250 kW

- Output Voltage: 450 VAC, 60 Hz, 3Ø
- Electrical Service
  - Ship Service
    - ⌚ 450 VAC, 60 Hz, 3Ø
    - ⌚ 120 VAC, 60 Hz, 1Ø
  - Isolated "Clean" Power for electronics and scientific equipment
    - ⌚ 450 VAC, 60 Hz, 3Ø
    - ⌚ 120 VAC, 60 Hz, 1Ø
  - Uninterruptible Power for Computer Equipment
    - ⌚ 120/240 VAC, 60 Hz, 1Ø

## **Communications**

- GMDSS Compliant
- VHF/FM Marine Band Transceivers
- HF Marine Band Transceivers
- Radio Teletype Capability
- Weather Facsimile Receiver
- NAVTEX Receiver
- Cellular Phone • Iridium Phone
- Emergency Position Indicator Radio Beacons (Class 1 and Mini-B)
- Search and Rescue Transponders (X-Band Radar Frequency)
- INMARSAT Standard B Radio Transceiver with 56 kb high speed data modem
- INMARSAT Standard C Radio Transceiver

- Portable VHF-FM Transceivers
- E-mail (KA'IMIMOANA's E-mail address is: [NOAA.Ship.Kaimimoana@noaa.gov](mailto:NOAA.Ship.Kaimimoana@noaa.gov))

## **Acoustics**

- ES60 Fathometer
- Shallow Water Echo Sounding System
- Hull-mounted Acoustic Release Transducer

## **Navigation**

- Navigation Fathometer
- X-Band and S-Band Radar with ARPA Display
- Global Positioning System (GPS) Receivers
- VHF Radio Direction Finder
- Doppler Speed Log
- Sperry MK 227 Gyrocompass

## **Scientific Equipment**

- CTD System
- POS-MV
- Acoustic Doppler Current Profiler
- Uncontaminated Sea Water Sampling System
- Thermosalinograph
- Autosalinometer