

NOAA Ship *Ronald H. Brown*



Hull Number	R104
Call Sign	WTEC
Home Port	Charleston, SC
Marine Operations Center	Atlantic (MOC-A)
Port Office	Charleston Marine Support Facility, Chaleston, SC
Regular Area of Operations	Global, International
General Classification	Oceanographic Research Vessel
Mailing Address	NOAA Ship <i>Ronald Brown</i> Marine Operations Center, Atlantic 439 West York Street Norfolk, VA 23510-1145

Contact Information	
IN PORT	AT SEA
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<u>Design</u>		<u>Speed & Endurance</u>	
Designer:	Halter Marine	Emergency Speed (knots):	15
Builder:	Halter Marine, Moss Point, Mississippi	Cruising Speed (knots):	11
Launched:	May 30, 1996	Range (nm):	11,300
Delivered:	April 18, 1997	Endurance (days):	60
Commissioned:	July 19, 1997	Endurance Constraint:	Food
Length (LOA - FT):	274 ft (83.5 m)		
Breadth (moulded - FT):	52.5 ft (16.0 m)	<u>Compliment - Maximum</u>	
Draft, Maximum (FT):	19.0 ft (5.8 m)	Commissioned Officers/Mates	6
Depth to Main Deck (FT):	26.5 ft (8 m)	Engineers, Licensed	4
Hull Description:	Welded steel/ice strengthened	Engineer, Unlicensed	4
Displacement:	3,250 tons	Deck	8
		Survey	2
		Stewards	4
		Electronic Technicians	1
		USPHS Medical Officer	1
		Total Crew	30
		Scientists	30
<u>Berthing</u>			
Single Staterooms:	9		
Double Staterooms:	24		
Other Staterooms:	1 triple berth		
Total Berths:	60		

<u>Medical Facilities:</u>	<u>Food Service Seating Capacity</u>
One treatment room containing two berths for patients. Emergency and first-aid equipment aboard, administered by designated vessel personnel. USPHS medical officer onboard.	Fwd Mess Room: 32

<u>Navigational Equipment (Ship's Use)</u>	<u>Type (Make/Model/Amount/Location)</u>
Radars (X and S Band)	2 x Furuno FAR 21x7
GPS and DGPS	2 x Furuno GP-150 & 2 x Trimble SPS 351
Gyro Compass	Teledyne Meridian Standard
Shallow Navigational Echosounder	Furuno FE-700
ECDIS	3 TRANSAS: Bridge, Aft Bridge, CO Cabin

<u>Navigational Equipment (Scientific Use)</u>	<u>Type (Make/Model/Amount/Location)</u>
GPS and DGPS	Furuno GP-150/ Applanix POS MV / Trimble SPS 351
Gyro Compass	Teledyne Meridian Standard
Deepwater Navigational Echosounders	Kongsberg EM122 - Computer Lab / SyQwest Bathy 2010 – Computer Lab / Knudsen CHIRP 3260 – Computer Lab
Shallow water Echosounder	FE-700
ECDIS	TRANSAS - Bridge
OpenCPN Charting Program with Ship's Position	NEMA String Broadcast Through Network

Laboratory Spaces and other Scientific Spaces			
Type	Location	Ft²	Description: (Available Services and/or Connections, counter space, etc.)
Computer Lab	Port Side Main Deck	610	Kongsberg EM122 / ADCP / SyQwest Bathy 2010 / Knudsen CHIRP 3260 / CTD Control Console
Bio Lab	Port Side Main Deck	330	Separate air conditioning and ventilation system / Fume hood/ Seawater Access
Main Lab	STBD Side Main Deck	1745	2 Large Sinks / Seawater Access / Portable Lab Benches
Hydro Lab	Port Side Main Deck	693	PCO2 System / Temperature controlled Autosal room / Large Sink / TSG
Wet Lab	STBD Side Main Deck	230	Sink / XBT Station / Fume Hood/ Seawater Access
Staging Bay	Main Deck	330	18' Clearance Roll down doors to protect against weather
Scientific Freezer	Port Side Main Deck	63	Minimum Temperature is -10F
Scientific Refrigerator	Port Side Main Deck	63	Minimum Temperature is 38F
Van/Shipping Container (provide in advance a draft van deck placement footprint with approximate weights)	4 x O2 Deck Fwd 4 x Aft Main Deck 1 x STBD O-2 Deck		Support 9 x 20' ISO mobile container units.
Store Room	Main Deck FWD	358	3 -tiered shelving for storage

Scientific Data Collection Systems and Supportable Operations	
Type	Brief Description
Acoustic Current Doppler Profiler (ADCP)	RD Instruments 75kHz Ocean Surveyor with UHDAS software
Scientific Diver Support	Air Compressor onboard and 4 NOAA Working Divers
Thermosalinograph	SBE21 at intake, SBE45 in hydro lab
Scientific Computer System Equipped	NOAA SCS v.4.9.0
Multibeam Equipped for Hydrographic Surveys	Kongsberg EM122 with SIS software
Expendable BathyThermographs (XBT) Capable	Sippican MK21 Software and Probe Launcher. Program must provide probes
Conductivity, Temp., Depth (CTD) With Water Samples	Seabird SBE 9+ CTD, 11+ deck unit and SBE32 water sampler
Atmospheric CO2 Data Collection	pCO2 system operated by Survey Techs. Owned by AOML
Fluorometer	Installed inline Turner, data output available in SCS

DATA COLLECTED BY THE SHIP'S SCIENTIFIC COMPUTER SYSTEM (SCS) IN THE STANDARD CONFIGURATION

Description	Units	Data Source
GGA Time	HHMMSS	Primary GPS Furono GP150
GGA Latitude	Deg.Min	Primary GPS Furono GP150
GGA Longitude	Deg.Min	Primary GPS Furono GP150
GGA Sat. Quality	#	Primary GPS Furono GP150
GGA # Sat.	#	Primary GPS Furono GP150
GGA HDOP	#	Primary GPS Furono GP150
VTG - Track made good and ground speed	Deg.	Primary GPS Furono GP150
VTG - Track made good and ground speed	Knots	Primary GPS Furono GP150
GGA Time	HHMMSS	Secondary GPS Furono GP150
GGA Latitude	Deg.Min	Secondary GPS Furono GP150
GGA Longitude	Deg.Min	Secondary GPS Furono GP150
GGA Sat. Quality	#	Secondary GPS Furono GP150
GGA # Sat.	#	Secondary GPS Furono GP150
GGA HDOP	#	Secondary GPS Furono GP150
VTG - Track made good and ground speed	Deg.	Secondary GPS Furono GP150
VTG - Track made good and ground speed	Knots	Secondary GPS Furono GP150
HDT - Heading (True)	Deg.	Meridian Standard Gyro
HDT - Heading (True)	Deg.	Microflex Attitude and Heading Reference System (MAHRS)
GGA Time	HHMMSS	Applanix POSMV V.5
GGA Latitude	Deg.Min	Applanix POSMV V.5
GGA Longitude	Deg.Min	Applanix POSMV V.5
GGA Sat. Quality	#	Applanix POSMV V.5
GGA # Sat.	#	Applanix POSMV V.5
GGA HDOP	#	Applanix POSMV V.5
PASHR Heading	Deg.	Applanix POSMV V.5
PASHR Pitch	Deg.	Applanix POSMV V.5
PASHR Roll	Deg.	Applanix POSMV V.5
PASHR Heave	Meters	Applanix POSMV V.5
PASHR Accuracy Roll	#	Applanix POSMV V.5
PASHR Accuracy Pitch	#	Applanix POSMV V.5
PASHR Accuracy Heading	#	Applanix POSMV V.5
PASHR GAMS	#	Applanix POSMV V.5
PASHR IMU	#	Applanix POSMV V.5
HDT - Heading (True)	Deg.	Applanix POSMV V.5
VTG - Track made good and ground speed	Deg.	Applanix POSMV V.5
ZDA - Time and Date (UTC. d, m, yr, TZ)	HHMMSS	Applanix POSMV V.5
Sea Surface Temp.	Deg. C	SBE21 Thermosalinograph
Sea Surface Conductivity	S/M	SBE21 Thermosalinograph
Sea Surface Salinity	PSU	SBE21 Thermosalinograph
Sea Surface Sound Velocity	M/Sec	SBE21 Thermosalinograph
Fluorometer Raw Voltage	Volts	Turner 10AU Fluorometer

Traction Winch Tension	LBS	Markey DUTW-11 Traction Winch
Traction Winch Line Out	M	Markey DUTW-11 Traction Winch
Traction Winch Rate	M/Sec	Markey Traction Winch
Hydro Winch Line Out	M	Markey DESH5 Hydro Winch
Hydro Winch Rate	M/Sec	Markey DESH5 Hydro Winch
Hydro Winch Tension	LBS	Markey DESH5 Hydro Winch
DBT – Depth Below Transducer	Feet	Knudsen Sub Bottom Profiler
DBT – Depth Below Transducer	Meters	Knudsen Sub Bottom Profiler
DBT – Depth Below Transducer	Fathoms	Knudsen Sub Bottom Profiler
DBT – Depth Below Transducer	Feet	SyQwest Bathy 2010
DBT – Depth Below Transducer	Meters	SyQwest Bathy 2010
DBT – Depth Below Transducer	Fathoms	SyQwest Bathy 2010
TSG Internal Water Temperature	Deg. C	SBE 45 Thermosalinograph
TSG Internal Water Conductivity	S/M	SBE 45 Thermosalinograph
TSG Internal Salinity	PSU	SBE 45 Thermosalinograph
TSG Internal Sound Velocity	M/Sec	SBE 45 Thermosalinograph
Atmospheric Pressure	MB	Vaisala PTB330 Barometer
Atmospheric Pressure Corrected for Sea-level	MB	Vaisala PTB330 Barometer
CTD Scan Count	#	SBE 9+ CTD
CTD Salinity	PSU	SBE 9+ CTD
CTD Pressure	DB	SBE 9+ CTD
CTD Depth	M	SBE 9+ CTD
CTD Sound Velocity	M/Sec	SBE 9+ CTD
Sea Surface Temperature	Deg. C	IMET SST Sensor
Long Wave Radiation PIR	Watts/m ²	IMET LWR Sensor
Short Wave Radiation PSP	Watts/m ²	IMET SWR Sensor
Relative Wind Speed	Knots	IMET WIND Sensor
Relative Wind Speed	M/Sec	IMET WIND Sensor
Relative Wind Direction	Deg.	IMET WIND Sensor
True Wind Speed	Knots	IMET WIND Sensor
True Wind Speed	M/Sec	IMET WIND Sensor
True Wind Direction	Deg.	IMET WIND Sensor
Relative Humidity	%	IMET Temp/Humidity Sensor
Air Temperature	Deg. C	IMET Temp/Humidity Sensor
Volumetric Rain Gauge	MM	IMET Rain Gauge
Surface Sound Velocity Port	M/Sec	Reson SVP70
Surface Sound Velocity STBD	M/Sec	Reson SVP70
WIMVW - Port Relative Wind Speed	Knots	Vaisala WMT700 Ultrasonic
Port True Speed	Knots	Vaisala WMT700 Ultrasonic
WIMVW - Port Relative Wind Direction	Deg.	Vaisala WMT700 Ultrasonic
Port True Wind Direction	Deg.	Vaisala WMT700 Ultrasonic
WIMV - STBD Relative Wind Speed	Knots	Vaisala WMT700 Ultrasonic
STBD True Wind Speed	Knots	Vaisala WMT700 Ultrasonic
WIMV - STBD Relative Wind Direction	Deg.	Vaisala WMT700 Ultrasonic
STBD True Wind Direction	Deg.	Vaisala WMT700 Ultrasonic
DBT - Depth Below Transducer	M	Kongsberg EM122 Multibeam

DECK EQUIPMENT			
Winch – CTD		Winch – Traction, Dual Drum Route to A – Frame or Crane	
Quantity:	2	Quantity:	1
Manufacturer:	Markey	Manufacturer:	Markey
Model:	DESH-5	Model:	DUTW-11
Drive:	Electronically Controlled DC motor and brake	Drive:	Electronically Controlled DC motor and brake
Max. Pull (lbs):	8,100	Max. Pull (lbs):	8,100
Max. Depth (m)	8,000	Max. Depth (m)	15,000
Drum Capacity:	10,000m of .322" conductor cable	Drum Capacity:	10,000m of .680" conductor cable; 15,000 m of 9/16" wire rope.
Type of Cable Installed:	.322" conductor cable	Type of Cable Installed:	.680" conductor cable; 9/16 wire rope
Length of Cable on the drum (m)	8,000m	Length of Cable on the drum (m)	10,000m – 15,000
Location:	STBD 02 Deck, amidships.	Location:	Winch room, below deck
Hydro Boom		Crane, Portable, Foldable Boom	
Quantity:	1	Quantity:	1
Manufacturer:	Markey	Manufacturer:	HIAB
Model:	Shipboard Boom model 15000	Model:	HIAB 180 SeaCrane
SWL (lbs):	12,000	Boom Length (ft)	40
Reach over side	12'	Lifting Capacity (lbs)	14,000 at 10'
Location:	STBD 02 Deck	Location:	PORT Main Deck
Crane, Telescopic Boom		A Frame	
Quantity:	2	Quantity:	1
Manufacturer:	North American	Over the Side Clearance (ft)	15
Model:	MCT -165	Horizontal Clearance (ft)	20
Boom Length (ft):	65	SWL (lbs):	21,200
Lifting Cap. (lbs):	42,000 at 10'	Location:	Fantail
Location:	STBD MainDeck, Port O-1 Deck		

Boat Davit (Gravity)	
Quantity:	1
Manufacturer:	Miranda
Hoisting Capacity	5375
Location	Starboard O-2
Boat type used	Rescue Boat

Anchor - Bow	
Quantity	2
Type	Stockless
Weight (lbs)	4850
Port Anchor Chain Length (fathoms)	135, 9 shots
STBD Anchor Chain Length (fathoms)	120, 8 shots

BOATS (Normally Equipped)				
	Type	Horsepower	Length Over All (Ft)	Max. Persons
1	Rescue Boat (SOLAS Approved)	230	22	9
2	Rigid Hull Inflatable Boat (RHIB)	100	17	4

Additional Capabilities (not previously stated)	
Type	Description
Dynamic Positioning Capable	Kongsberg DP system, K-POS DP11
Reson 70 Sound Velocity Profiler	2 sensors located amidships. Both sensors feed SCS but only the STBD sensor feeds the Kongsberg EM 122
Access to Clean Electrical Power	Clean electrical power available throughout the ship. Two motor generators sets installed.
Compressed Air	120 psi compressed air available throughout the ship and accessible from van slots
Bandwidth	
Saltwater Rinse	Hose available on the main deck, STBD side for scientific use to rinse equipment / nets