

Jacobsen Pilot Service, Inc.

***Safe Vessel Movement using
Information Technology***



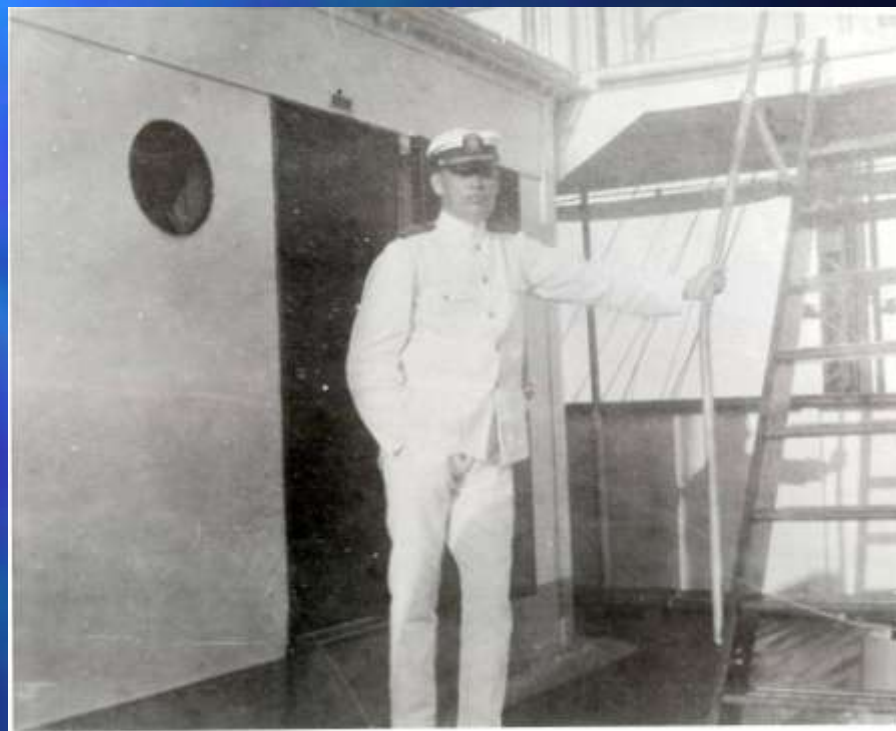
**By: Tom Jacobsen
President**



Jacobsen Pilot Service, Inc.

Overview

- Captain J.A. Jacobsen started Piloting in 1924.
- Pilot all commercial ships in Long Beach Harbor
- Pilot US Navy ships
- 24 hours a day, 365 days a year
- 19 Pilots,
11 Boatmen -Dispatches
- JPS is a private,
Incorporated Business.





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Pilot Duties





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Pilot Selection , Qualifications, Training

- Qualifications
 - Experience
 - Physical exam
- Pilot Selection
 - Attitude, ability, talent, background
- Training
 - Min. 3 years
 - Simulator





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Ship Moves

Today we average
about 7,000 ship
moves per year.



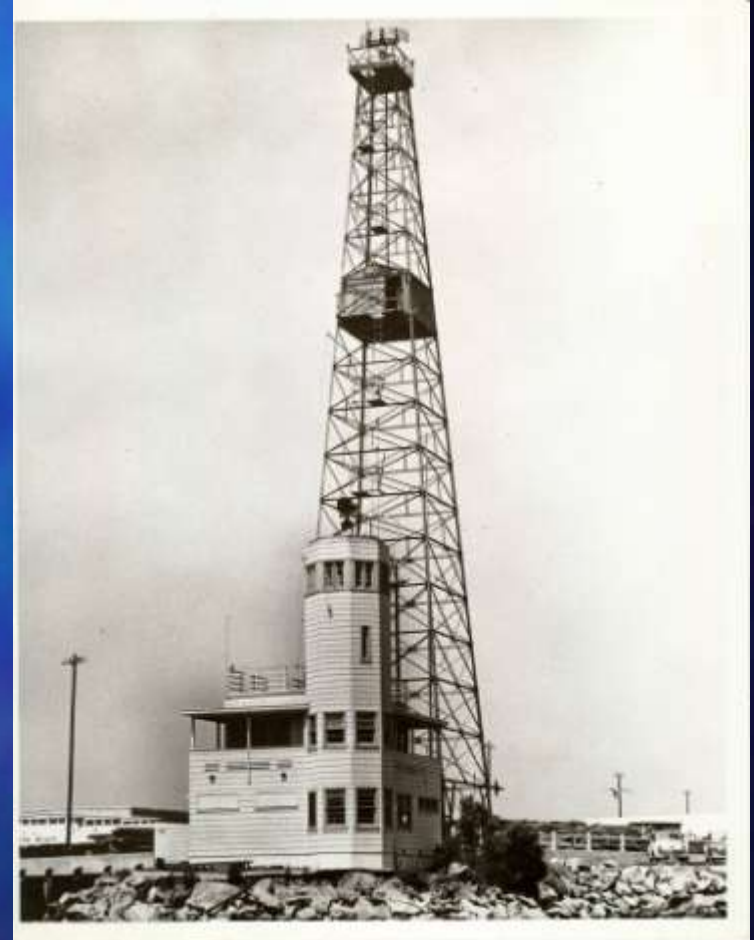


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Utilizing Technology

■ 1940's

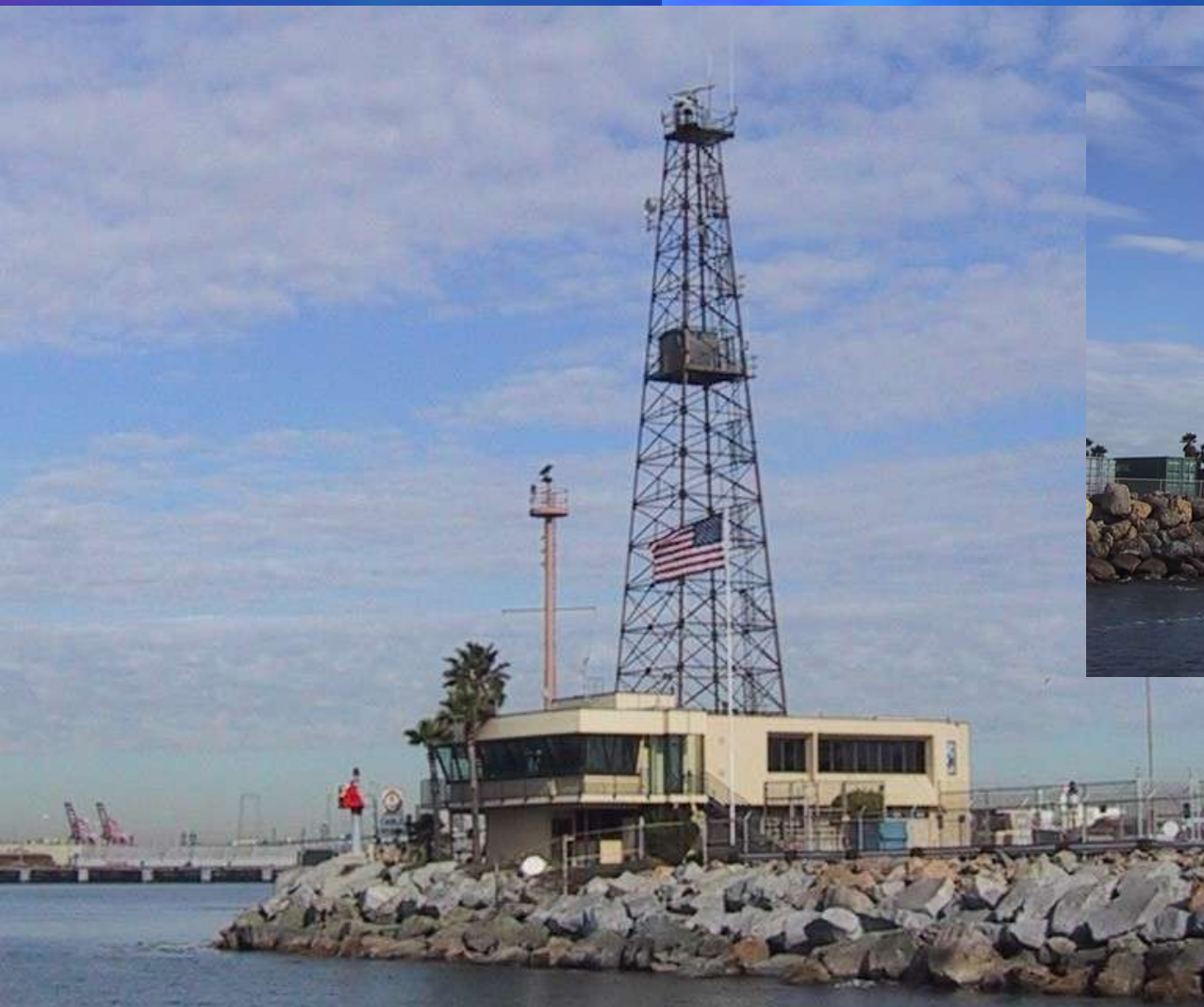
First Shore Side Radar in
United States & VHF Radio's





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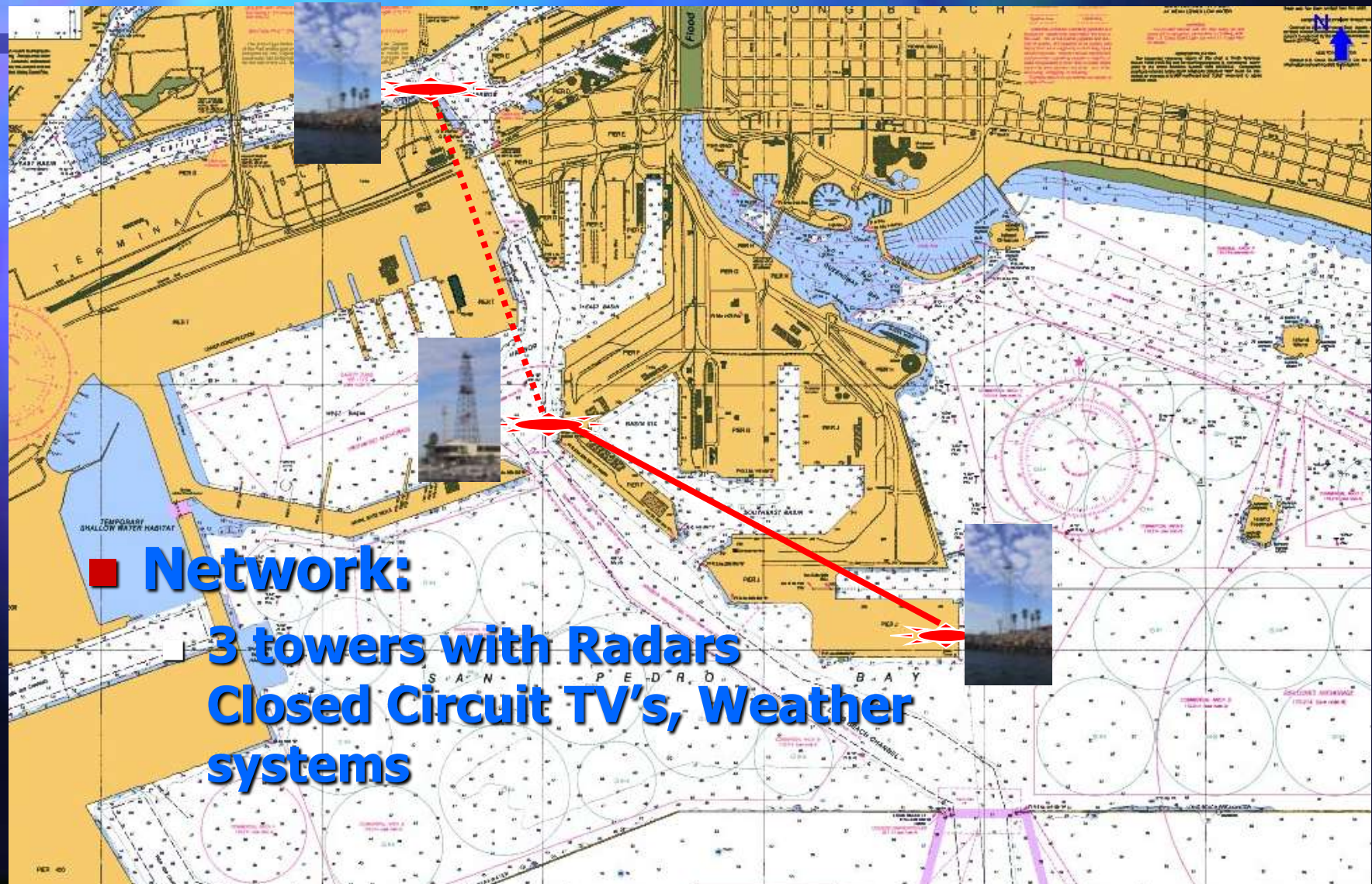
1970's and 1990's expanded the Radar Technology





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Network



■ **Network:**
3 towers with Radars
Closed Circuit TV's, Weather
systems



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Vessel Traffic Service / Long Beach Sector





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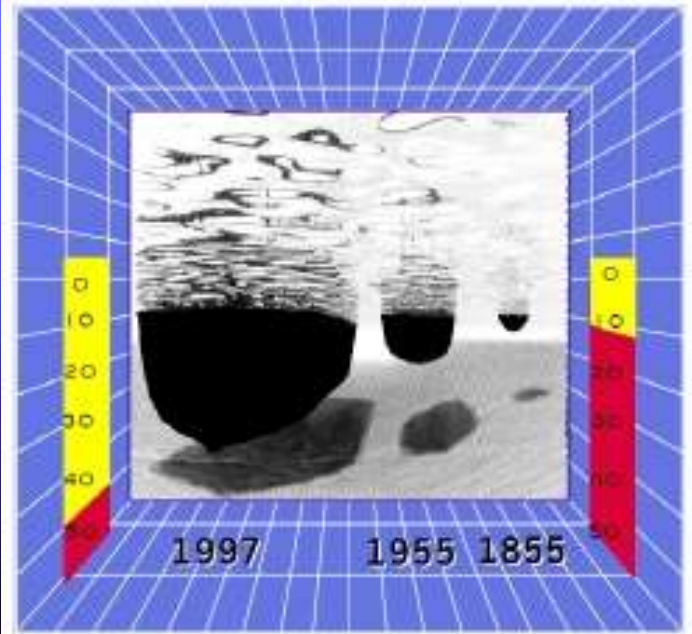
Traditional System of I.T. (Pre – 1996)

- Collecting all I.T. at the Pilot Station, then relaying it to the Pilots
 - Ships position
 - Radar targets
 - VTS / AIS for traffic vessels
 - Weather information
 - Air Gap
 - CCTV



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DECREASING MARGIN OF ERROR



Draft Over the Years



The Port of Long Beach

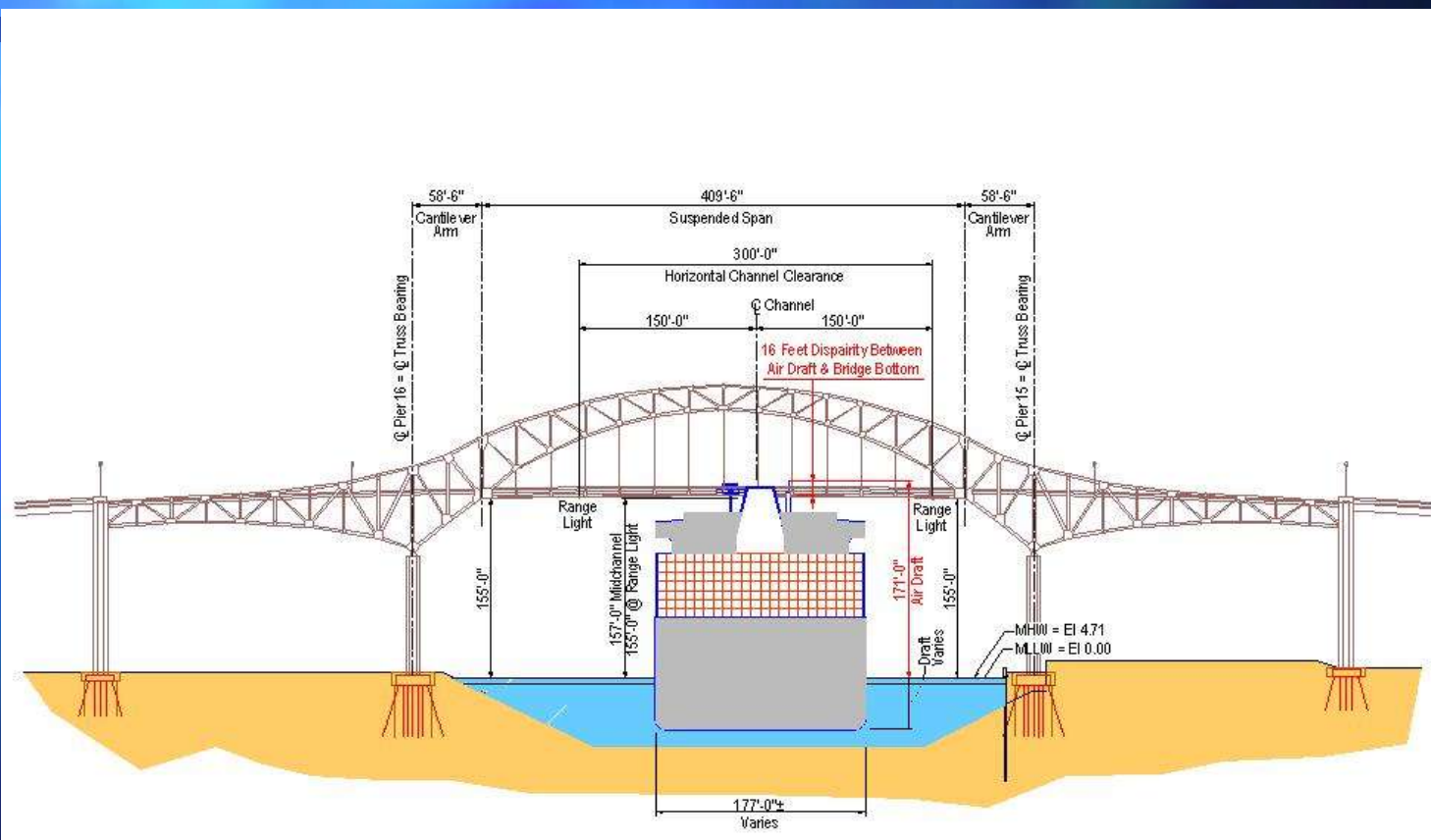
HOW CONTAINER SHIPS HAVE GROWN





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Size of vessels



Ships now are limited by height, draft, and width of channel.



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New Technology

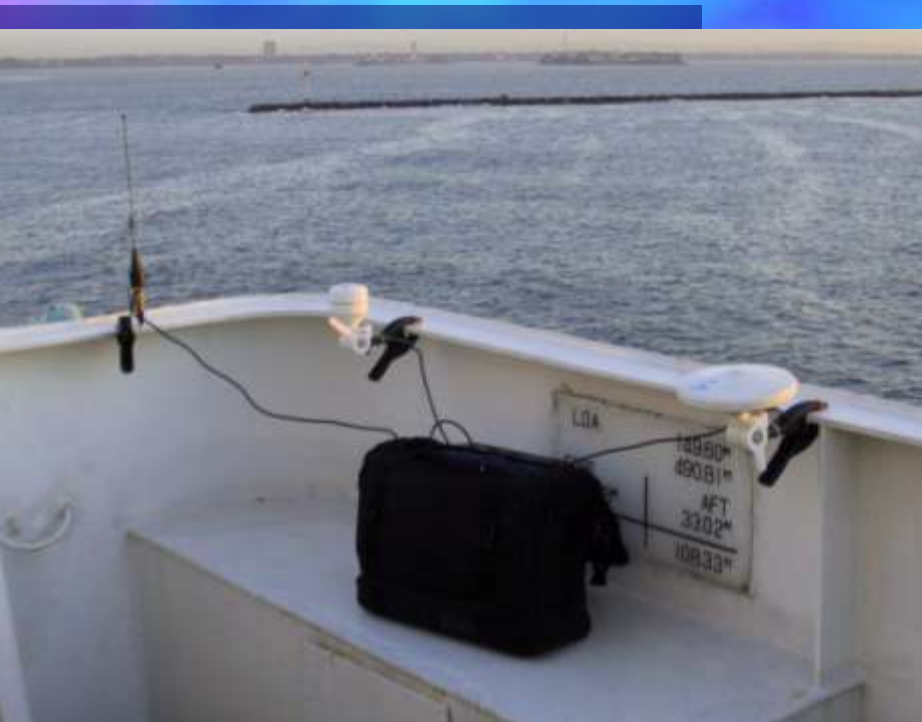
- Need for High Precision Piloting.
- Goal: Getting all I.T. info in the hands of the Pilots
- 1996 started the “PilotMate” project using DGPS.
- Team effort between POLB, JPS, ARINC.





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Original Hardware



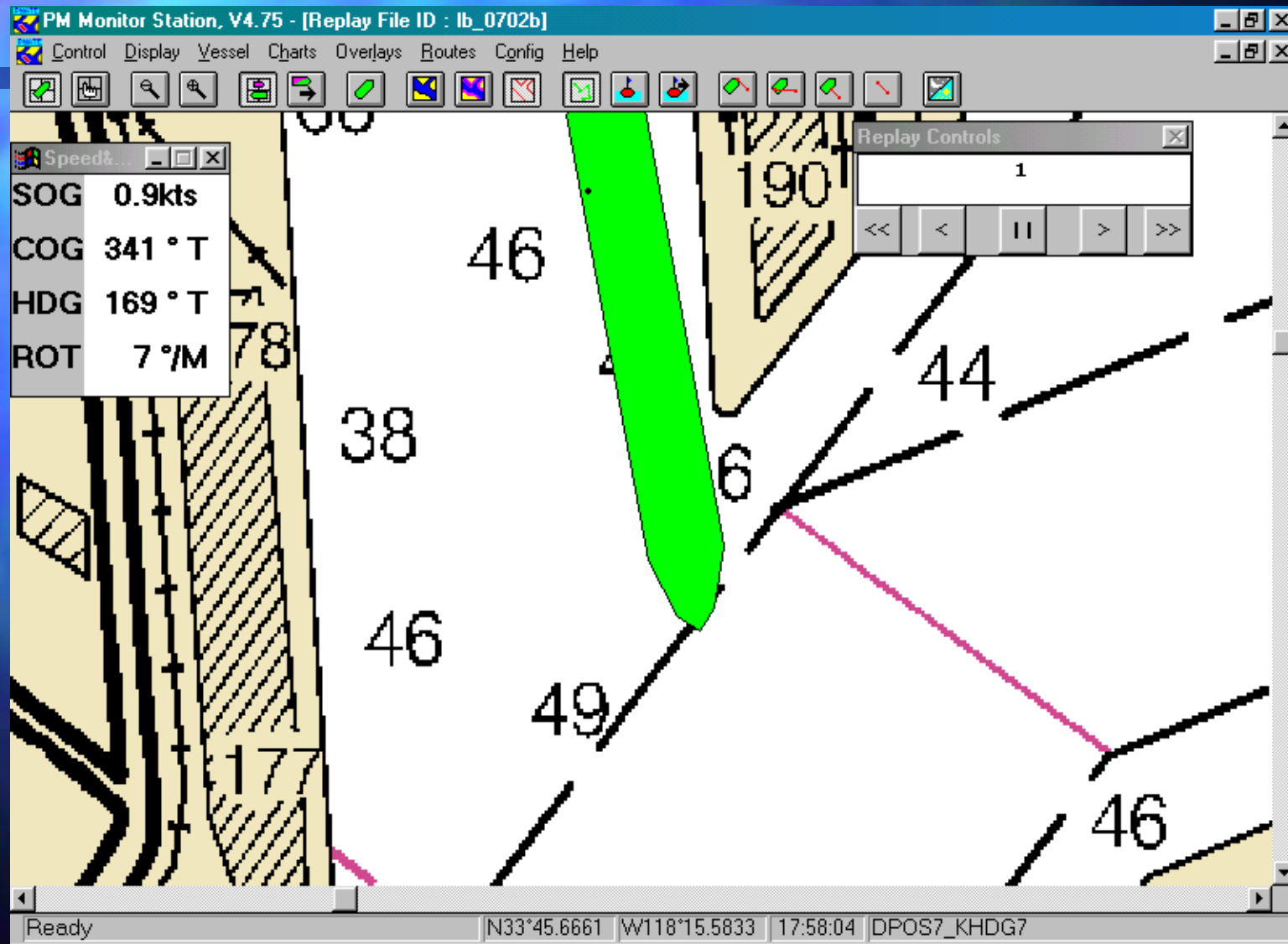
- Two Antenna System
- Raster Charts
- Differential correction
- 900 Mhz data connection to Pilot Station





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Precision Positioning





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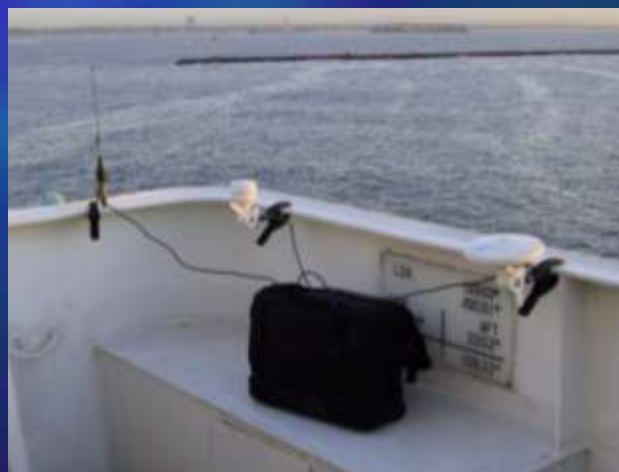




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Modern PilotMate system

- Added Features:
 - Digital Charts
 - Precise position
 - Pivot Point
 - Projections
 - Depths
 - VTS / AIS
 - Parked Ships
 - Meeting Points
 - Distance off objects
 - Recordings
 - Simulations
 - ETC





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Ships keep getting larger
1100' LOA x 230' Beam





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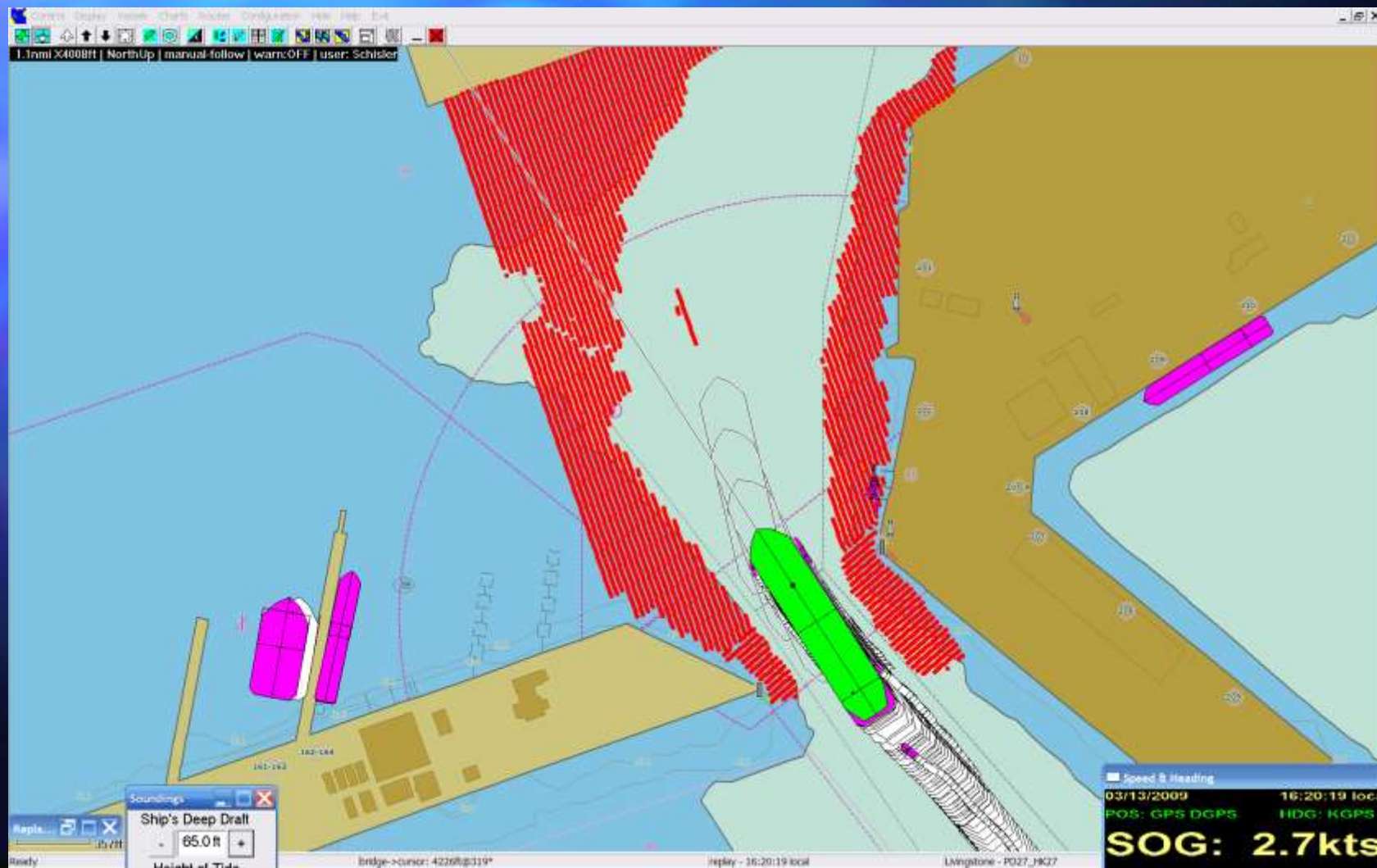
PilotMate DGPS





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PilotMate – DGPS





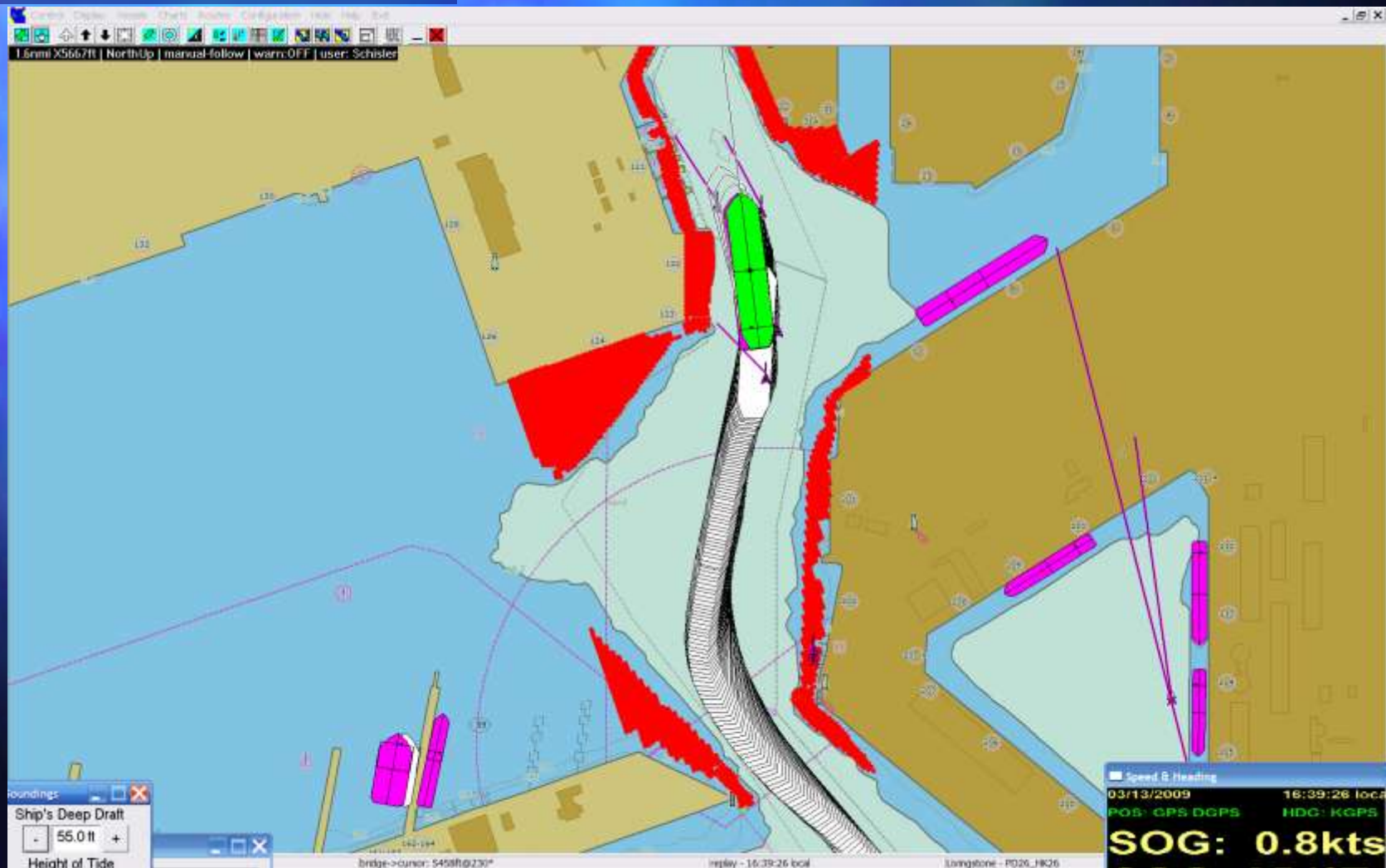
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Recordings and playbacks





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FOG





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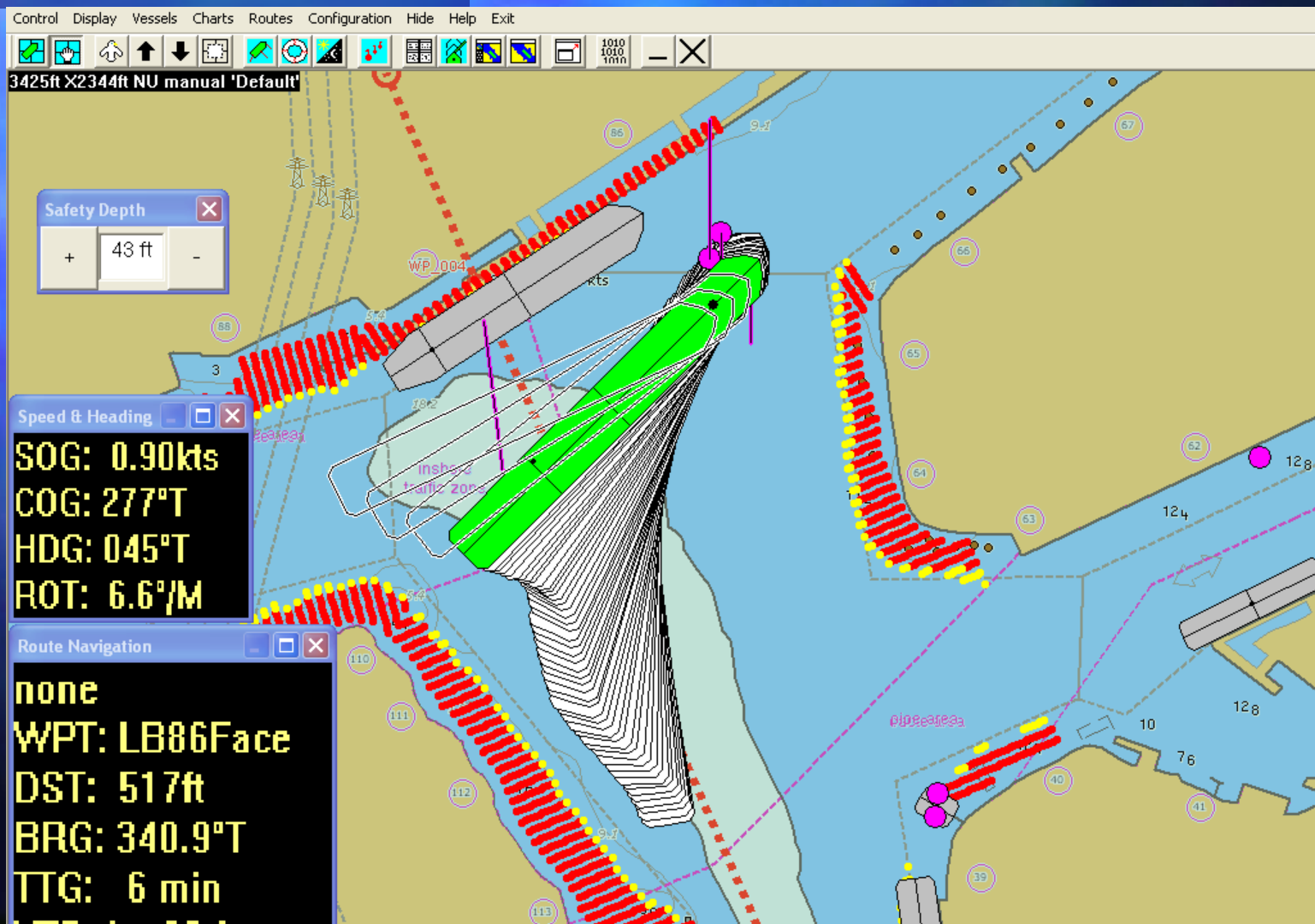
PilotMate – DGPS





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PilotMate - DGPS





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FOG & PilotMate - DGPS





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Computerized work sheets, ships information, etc.

Ship Name: **HANJIN MALTA**

Type: CONT | Layup # 9011679 | Call 09/2 | Flag KOREA

Dimensions / Weight Information

L.O.A.	289.50	Summer Draft	42.8	Bridge To Bow	718.2	Subsides Bow	Y
	950.00	Deadweight	82648	Bridge To Mast			
Breadth	106.0	Gross Tonn.	51298	Keel To Highest	186.0		

Engine / Prop Information

Engine	DSL	Prop	FP	Bow Thruster	Y	Stem Thruster	N
	51550	Rotation	FR		2300		

Comments

1. STERN TO BRIDGE = 205 FT
2. AIR DRAFT @ 35 FT DRAFT = 150 FT

Additional Information

Speed Restrictions: North Guidelines, Anchorage Guidelines

Visibility Requirements: Laid Tasker

Other: Tug Requirement Exempt

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Daily Ship Log SOL

Time	Ship	From	To	Time	Ship	From	To	Time	Ship	From	To	Time	Ship	From	To	Time	Ship	From	To
18:00	OVERSEAS REYNAR	SEA	SEA	18:00	OVERSEAS REYNAR	SEA	SEA	18:00	OVERSEAS REYNAR	SEA	SEA	18:00	OVERSEAS REYNAR	SEA	SEA	18:00	OVERSEAS REYNAR	SEA	SEA
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Notes for today:

Anchor 1-6 Clear for use

SAVE B11 AND B07 FOR PINCHICA 1300 13TH AND CYGNUS VOY 1630 10/14 05'

1800-1100 Manoeuvring dredge pipe from main channel at SE Basin Ent. See LHM

Summary:

Days	19	Months to day total	218	Months to day average	10.8	Years to day total	5.481	Years to day average	19.2
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Bigger Ships

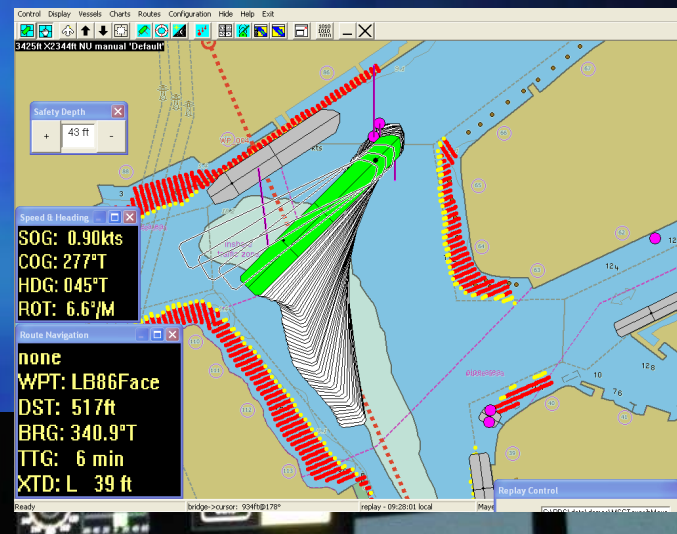




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FUTURE of I.T. for Piloting

- 3D DGPS
- Real time UKC
- Transmit Shore radar to Pilot
- Broadband connection
- Virtual Reality for Zero Visibility





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JACOBSEN PILOT SERVICE



LONG BEACH PILOTS
SINCE 1924