

## General Description

Raytheon's Pathfinder®/ST MK2 ECDIS completes any bridge perfectly. It fulfills the safety requirements of major classification societies and complements the new Pathfinder®/ST MK2 radar.

The Pathfinder®/ST MK2 ECDIS was developed according to the latest specifications of the IMO, IHO and IEC (Performance Standards for ECDIS).

The Pathfinder®/ST MK2 ECDIS supports a variety of vector chart data base formats. The system can read, directly off the CD-ROM without external conversion, the following data formats:

- IHO S57/DX-90
- NIMA DNC VPF
- C-MAP® C-93®

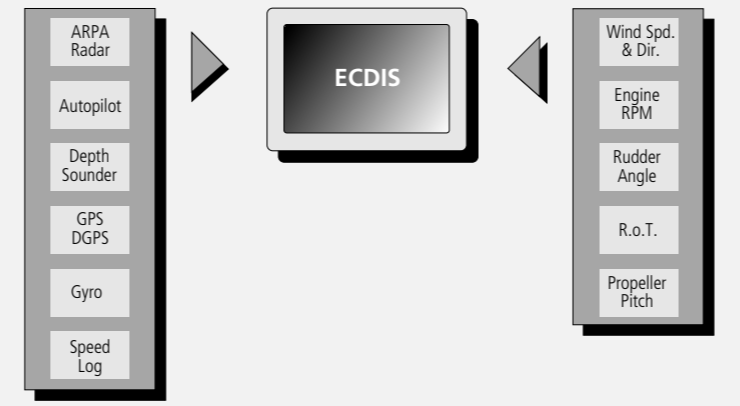
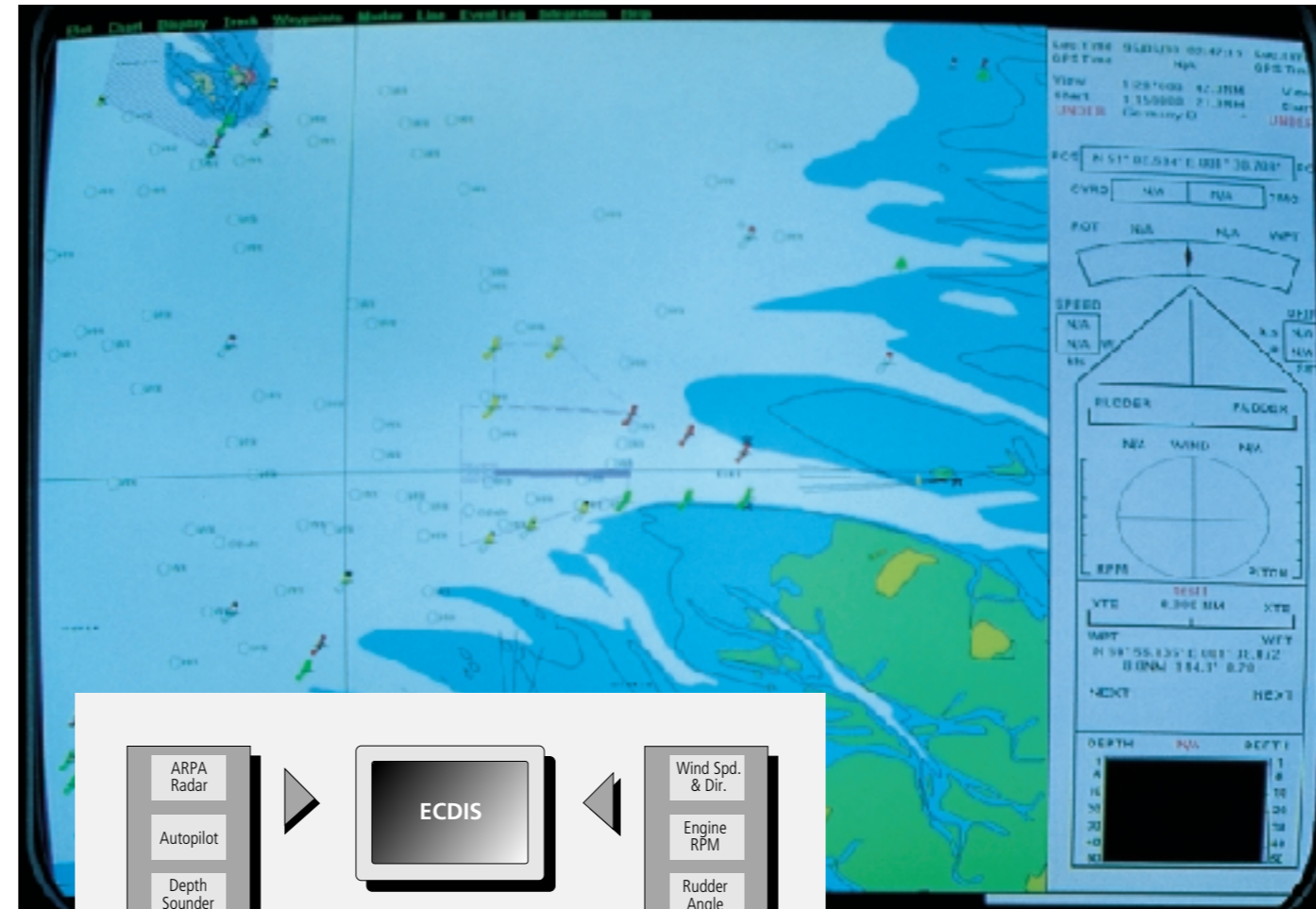
In addition to IMO compliant vector Electronic Navigation Charts (ENC), the MK2 ECDIS can also display raster charts.

The operating system of the MK2 ECDIS is based on Windows NT™ which ensures a high performance product with a familiar, simple to use Man Machine Interface. Ease of use is further enhanced by the ergonomically designed backlit custom control panel featuring dedicated keys for critical ECDIS functions.

The simple intelligent design accommodates retrofit installations as well as forming the architecture upon which the Integrated Bridge System is achieved.



## Raytheon Pathfinder®/ST MK2 ECDIS



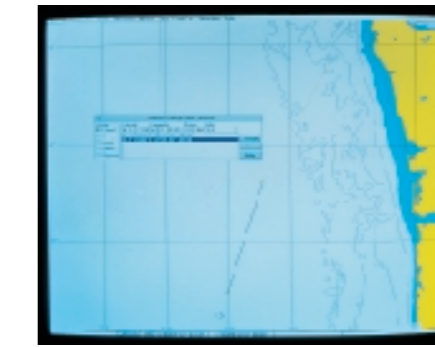
### System Integration

Raytheon's Pathfinder®/ST MK2 ECDIS interfaces to many existing bridge systems and navigation equipment.

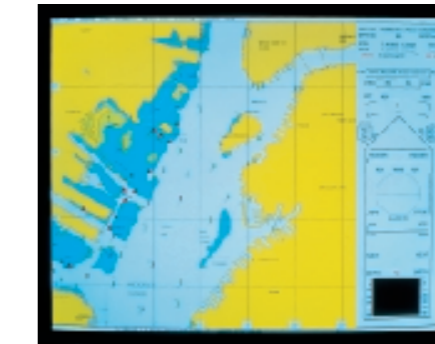
The Pathfinder®/ST MK2 ECDIS can be configured for integration with ARPA Radar, autopilot, echo sounder, speed log, wind speed and direction sensor, position receiver(s) and engine rpm sensors.

Raytheon's Pathfinder®/ST MK2 ECDIS offers additional system advantages:

- Connection to the central communication data bus (MiTS).
- Uniform operator philosophy in the entire Integrated Bridge System.
- Complies with the One Man Bridge Operation DNV-W1 requirements.
- Integral component of the bridge concept of Raytheon.
- Integration with Pathfinder®/ST MK2 ARPA Radar to enable transfer of Electronic Chart layers to radar display.



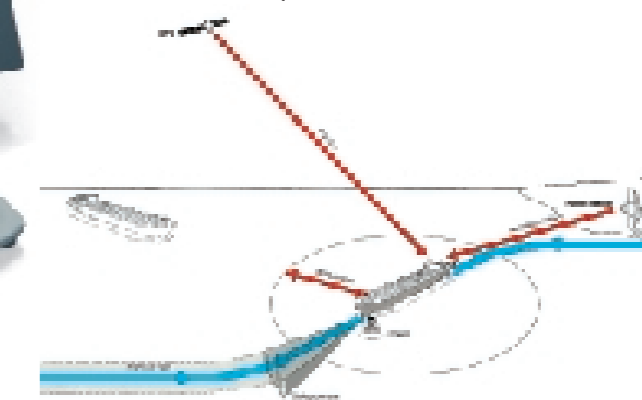
Route planning is easily accomplished on screen via trackball and cursor or direct entry in Lat/Lon.



An information display with additional data such as: rate of turn, echosounder, environmental and route information. This information panel can be turned on or off.



Autopilot Remote Control Panel (option)



Automatic Navigation and Track-keeping System (ANTS)

## Basic Equipment

### Monitor

- high resolution graphic color monitor, resolution 1280 x 1024 pixel 20" or 29"
- 256 colors
- power supply 115/230 V AC 50/60 Hz, optional 24 V

### PC Work Station

- Intel® microprocessor
- 32MB RAM expandable to 64MB
- 2.1GB harddisk
- 2 Meg Ram high speed graphic adapter
- Interface pcb: serial Multi-IO max. 6 (optional 10)
- CD-ROM disk drive
- 3 1/2" floppy disk drive

### Options

- Color printer
- Deckstand
- Remote trackball
- Viewing hood
- Radar overlay
- SENC overlay on Pathfinder®/ST MK2 radar
- MiTS bus
- Autopilot Remote Control Panel
- Chart station with digitizer

### System connection

- via Ethernet

### System safety

- optional
- uninterrupted power supply (UPS)

Pathfinder®/ST MK2 ECDIS is constructed to fulfill IEC 945 and other relevant standards

## Abbreviations

ANTS	Automatic Navigation and Track-keeping System
ARPA	Automatic Radar Plotting Aid
CTS	Course To Steer
DNV	Det Norske Veritas
DNV-W1	One Man Operation
ECDIS	Electronic Chart Display and Information System
ENC	Electronic Navigation Chart
ETA	Estimated Time of Arrival
GPS	Global Positioning System
IBS	Integrated Bridge System
IEC	International Electrotechnical Commission
IHO	International Hydrographic Office
IMO	International Maritime Organization
MiTS	Maritime Information Technology Standard
NIMA	National Imagery and Mapping Agency
OMBO	One Man Bridge Operation
RoT	Rate of Turn
SENC	System Electronic Navigation Chart
TTG	Time To Go
XTD	Cross Track Distance

# Pathfinder®/ST MK 2 ECDIS

## Electronic Chart Display and Information System



Use of the cursor query function allows quick readout of any selected chart object.

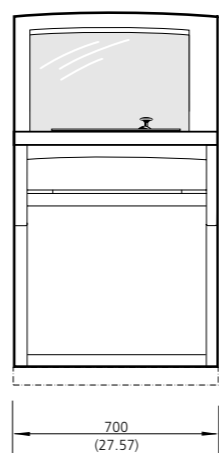
### Performance Characteristics

- safety depth contour alarm (grounding avoidance) activates visual and audible alarms when the ship has deviated from the track, is nearing shallow water, has reached the wheel-over-point or infringes on safety zones
- brilliant high-resolution ECDIS presentation
- automatic selection of sea chart according to position
- compatibility to the IHO-/IMO Performance Standards
- display of the sea chart in different chart layers with increasing amounts of information
- display of detailed information on any desired chart object (e.g. light house)
- route planning and route monitoring
- recording and output of relevant voyage information (black-box function) with position-, ETA-, CTS-, TTG-, and XTD display
- display of radar information (tracked ARPA targets)
- radar image overlay (optional)
- sensor inputs (dead reckoning and position monitoring) for all connected position receivers
- multi-navigation-sensor interface (e.g. GPS, gyro, log or echo sounder)
- worldwide chart coverage

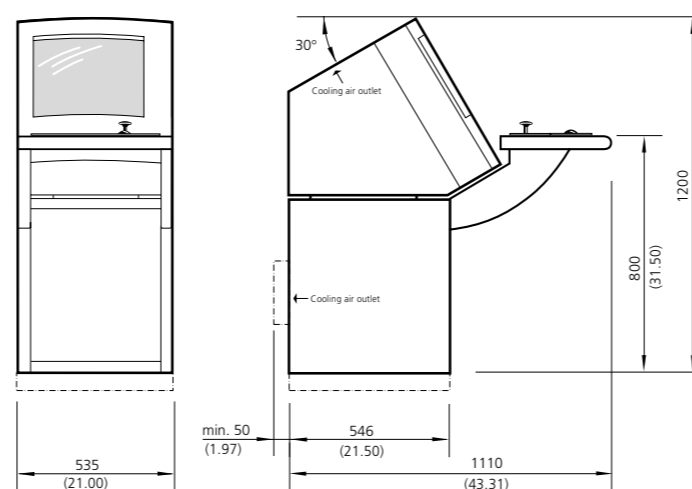


Display consoles ergonomically designed for stand-alone installations and Integrated Bridge System

### Pathfinder®/ST MK2 ECDIS Dimensions



Deck stand /29" monitor  
Weight: 115 kg



Deck stand /20" monitor  
Weight: 97 kg

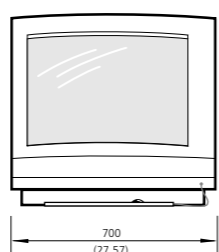


Table top /29" monitor  
Weight: 55 kg

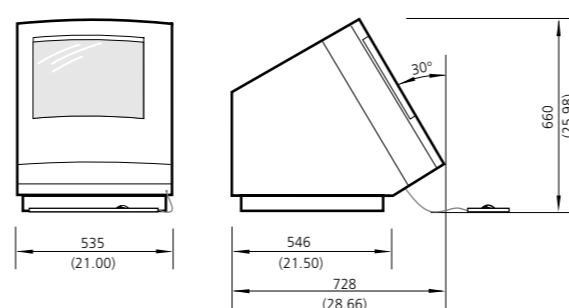
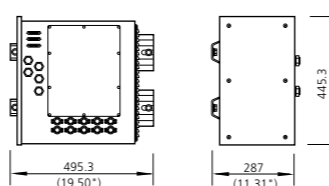
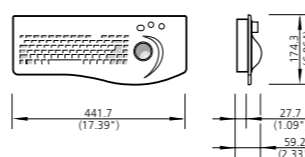


Table top /20" monitor  
Weight: 45 kg



Electronic cabinet  
Weight: 11.4 kg



Control Panel  
Weight: 3.18 kg

#### Registered Trademarks

Pathfinder® Raytheon Marine Company  
Intel® INTEL Corp.  
Windows NT® Microsoft Corporation  
C-MAP® C-MAP SRL  
CM-93® C-MAP SRL

Dimensions in mm (inches)

Subject to alteration due to technical developments without notice.



Ownship: Manual  
N 54° 21' 45"  
E 010° 08' 36"

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**Raytheon**

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