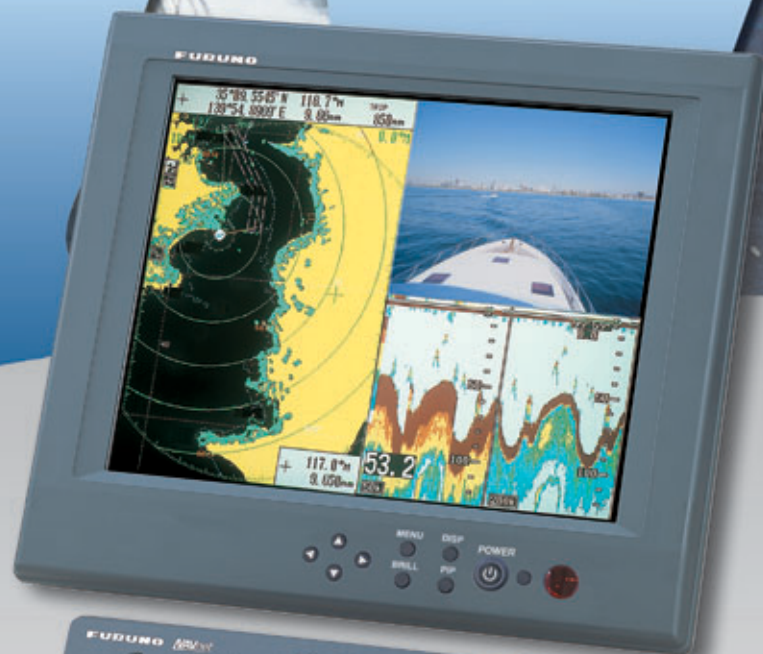


FURUNO®



NAVnet BB



The future today with FURUNO's electronics technology.

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Catalogue No. NPG-R-34

TRADE MARK REGISTERED
MARCA REGISTRADA

BlackBox Radar/VideoPlotter

MODEL 1823C-BB	0.125 to 24 nm, 2.2 kW, 18" Radome
MODEL 1833C-BB	0.125 to 36 nm, 4 kW, 24" Radome
MODEL 1933C-BB	0.125 to 48 nm, 4 kW, 3.5' Open Array
MODEL 1943C-BB	0.125 to 64 nm, 6 kW, 4' Open Array
MODEL 1953C-BB	0.125 to 72 nm, 12 kW, 4' 6" Open Array

BlackBox VideoPlotter

GD-1900C-BB

- Perfect for single or multiple display installations
- All units are capable of controlling any component connected to the NavNet network
- Common interface on all models of the NavNet series shortens training time
- Over 50 display modes to choose from when all components are active
- Simplified cabling requirements
- Connectable with VGA monitor
- Compact and waterproof keyboard (Operations/functions are based on NavNet 10.4" displays)
- NTSC/PAL video interface is supplied as standard



Processor Unit

Welcome to the future of marine electronics!

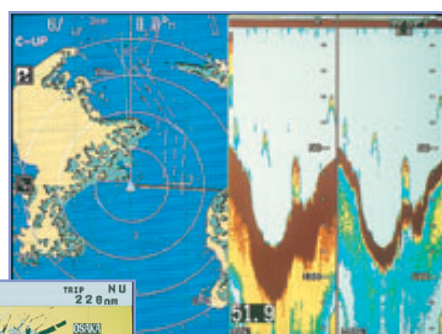
Introducing NavNet, Furuno's new line of Ethernet networked products. NavNet gives you the capability to communicate from one display to another over Furuno's High Speed Network.

Based on the well-known Furuno NavNet 10.4" display series, the BlackBox system MODEL 18x3C-BB/19x3C-BB and GD-1900C-BB are designed for users who wish to have a larger monitor than 10.4" LCD.

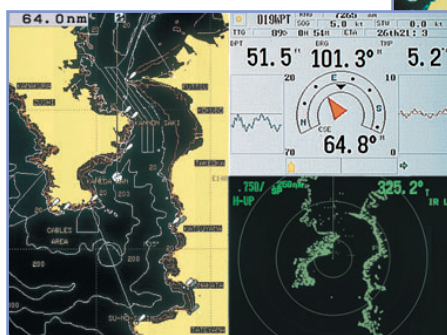
The BlackBox system is custom configured by adding a users favorite display to the package. This package including antenna unit, processor unit and control unit is based on a FURUNO NavNet series. The display unit may be selectable from virtually any size of multi-sync PC monitor supporting VGA input as a main monitor.

The processor unit accommodates NTSC/PAL video interface as standard. Connected with an external video camcorder, you can monitor the anchor, engine room and stern deck etc. in addition to the radar, sounder and plotter display in one screen. The compact and waterproof control unit may be mounted on the open fly bridge.

The standard features and operations are all the same as other NavNet series. Once you know the one, you will know them all.



Radar overlay /Fish Finder



Plotter

Plotter/Radar /Compass



Video

GPS
Receiver

Radar Antenna Selections

Each NavNet Radar comes with a durable Furuno antenna. The power output ranges from the sleek 2.2 kW radome, to the powerful 12 kW open array. There is a radar and antenna type for any situation. Please refer to the specifications page for a complete listing of beam width, TX output power and range scales.

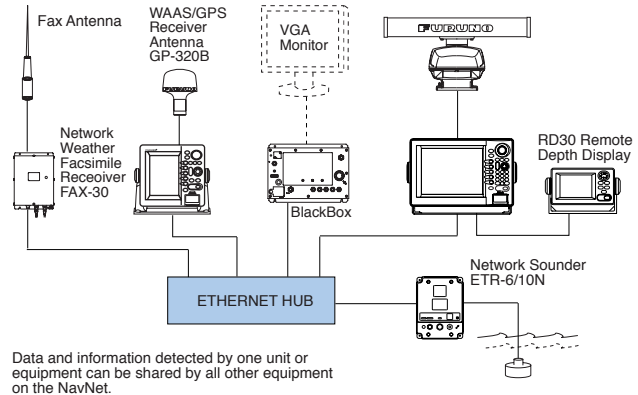
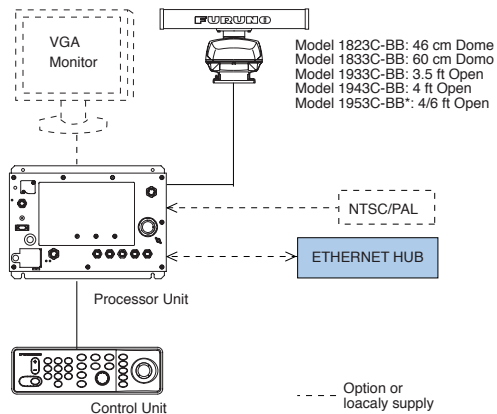
Ethernet
Hub

WAAS/GPS Receiver Antenna



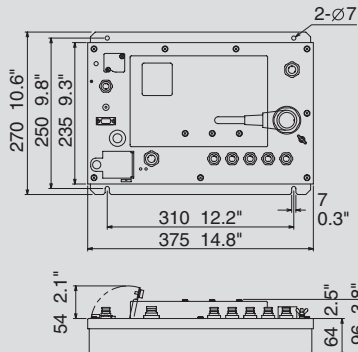
Simply connect the antenna to any NavNet series and you can display WAAS/GPS information on one display to the entire NavNet network. Now there is no need to have a separate antenna unit to get your position fix. This WAAS/GPS receiver antenna has everything you need. The antenna provides accurate and reliable position fixing; GPS 10 m, WAAS 3 m.

System configuration (with custom monitor)



Processor Unit

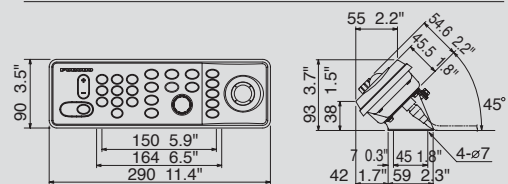
4.0 kg 8.8 lb



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

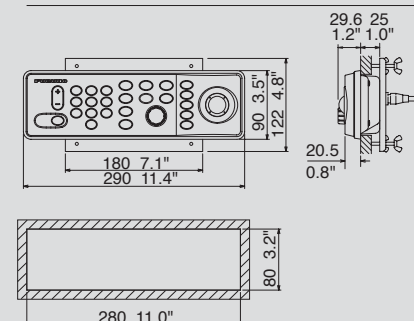
Control Unit (Bracket Mount)

0.9 kg 2.0 lb



Control Unit (Flush Mount)

0.8 kg 1.8 lb



SPECIFICATIONS OF NavNet BB SERIES

	Radar / VideoPlotter					VideoPlotter
	MODEL 1823C-BB	MODEL 1833C-BB	MODEL 1933C-BB	MODEL 1943C-BB	MODEL 1953C-BB	GD1900C-BB
DISPLAY UNIT						
1. Type	Required VGA monitors (640 x 480 picels)					
2. NavNet Interface	Ethernet 10-BaseT					
3. Interface (NMEA 0183 format) --: any talker (menu selection)	Input: DBK*, DBS*, DBT, DPT, GGA, GLL, GSV, HDT, HDM, HDG, MSS*, MTW, MWV, RMA, RMB, RMC, TTM, VHW, VTG, VYW, VWT, VWR, ZDA Output: AAM, APB, BOD, BWC, BWR, DBT, DPT, GGA, GLL, GTD, HDG**, HDT**, MHW, MSK, MTW, RMA, RMB, RMC, TLL, TTM**, VHW, VTG, WPL, XTE, ZDA * GD-1900C-BB only ** Model 18x3c-BB/19x3c-BB only					
RADAR CHARACTERISTICS						Not Available
1. Display Modes	Head-up, Course-up*, North-up*, True Motion** (* Heading input required ** Heading and speed inputs required)					
2. Range Scales (nm)	0.125 to 24 nm 14 steps	0.125 to 36 nm 15 steps	0.125 to 48 nm 16 steps	0.125 to 64 nm 17 steps	0.125 to 72 nm 18 steps	
3. Echo Trail	Interval: 15 s, 30 s, 1 min, 3 min, 6 min, 15 min, 30 min or Continuous					
PLOTTER CHARACTERISTICS						
1. Map Scale	0.125 to 2,048 nm					
2. Latitude Limits	Between 85°N and 85°S					
3. Plot Interval	1 s to 59 min 59 s or 0.01 to 9.99 nm					
4. Display Modes	Course plot, Nav data, Steering display, Highway					
5. Presentation Modes	TM/RM North-up, Course-up, Auto Course-up					
6. Memory Capacity	Up to 8,000 points for ship's track and marks 1,000 waypoints 200 planned routes (max. 35 waypoints/route)					
7. Alarms	Arrival/anchor watch, XTE, proximity alert, ship speed, depth*, water temperature*, sh* (*Network Sounder required, temperature sensor required for water temperature alarm)					
8. Electronic Charts*	Loaded from a FURUNO MiniChart, Navionics® Nav-Chart, C-Map ^{NT} chart cards *Chart must be determined when ordering. Choice of two units: Furuno & Navionics® or C-Map					
ANTENNA RADIATOR						Not Available
1. Type	Ø460 mm (18") Radome	Ø602 mm (24") Radome	1035 mm (3.5 ft) Open	1255 mm (4 ft) Open	1795 mm (4/6 ft) Open	
2. Rotation Speed	30 rpm(0.125 to 2 nm), 24 rpm(3 to 24 nm)	24 rpm	24/48 rpm	24/48 rpm	24/48 rpm	
3. Wind Load	Relative 100 kt	Relative 100 kt	Relative wind 100 kt (24 rpm) Relative wind 70 kt (48 rpm)			
4. Beamwidth	Hor: 5.2° Vert: 25°	Hor: 3.9° Vert: 20°	Hor: 2.2° Vert: 22°	Hor: 1.9° Vert: 22°	Hor: 1.9/1.2° Vert: 22°	
RF TRANSCEIVER						Not Available
1. Peak Output Power	2.2 kW	4 kW	4 kW	6 kW	12 kW	
2. Frequency	9410 ± 30 MHz (X-Band)					
3. Pulselength & PRR	0.08 µs/2100 Hz (0.125 to 1.5 nm) 0.3 µs/1200 Hz (1.5 to 3 nm) 0.8 µs/600 Hz (3 to 64 nm)				0.08 µs/2100 Hz (0.125 to 1.5 nm) 0.3 µs/1200 Hz (1.5 to 3 nm) 0.8 µs/500 Hz (3 to 64 nm)	
ENVIRONMENT (IEC 60945 test method)						
Temperature	-15°C to +55°C (Processor Unit, Control Unit) -25°C to +70°C (Antenna Unit)					
Waterproof ng	IEC 60529 IPX2, USCG CFR-46 (Processor Unit) IEC 60529 IPX5, USCG CFR-46 (Control Unit) IEC 60529 IPX6 (Antenna Unit)					
POWER SUPPLY						
	12-24 VDC Max. 45.6 W	12-24 VDC Max. 57.6 W	12-24 VDC Max. 62.4/76.8 W	12-24 VDC Max. 68.4/86.4 W	12-24 VDC Max. 86.4/98.4 W	12-24 VDC Max. 18.7 W
	115/230 VAC with optional recti er PR-62/RU-3423					
Optional unit						
Antenna Bracket	OP03-92		Not Available			
10-Target Autoplotter	ARP-11* (* Requires appropriate heading sensor)					Full control when networked with 10.4" LCD / BB / 10" CRT radar and ARP-11
External Buzzer	OP03-136 or Relay/Contact Closure					Not Available

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03085KS Printed in Japan

