

FURUNO®

BlackBox type (with custom monitor)

X/S – band Radar

Models FR-2115-B/2125-B/2155-B*/2135S-B

- 12, 25 and 50* kW T/R up X-band, 30 kW S-band
- SXGA PC monitor either CRT or color LCD
- Optional ARP-26 Automatic Radar Plotting Aid (ARPA) on 40 targets
- Furuno's exclusive chart/radar overlay technique by optional RP-26 VideoPlotter
- Easy to create radar maps
- Dual-radar/full function remote inter-switching
- New powerful processor with high-speed, high-density gate array and sophisticated software
- New cast aluminum scanner gearbox and new series of streamlined radiators
- Shared monitor utilization of Radar and PC systems with custom PC monitor switching system

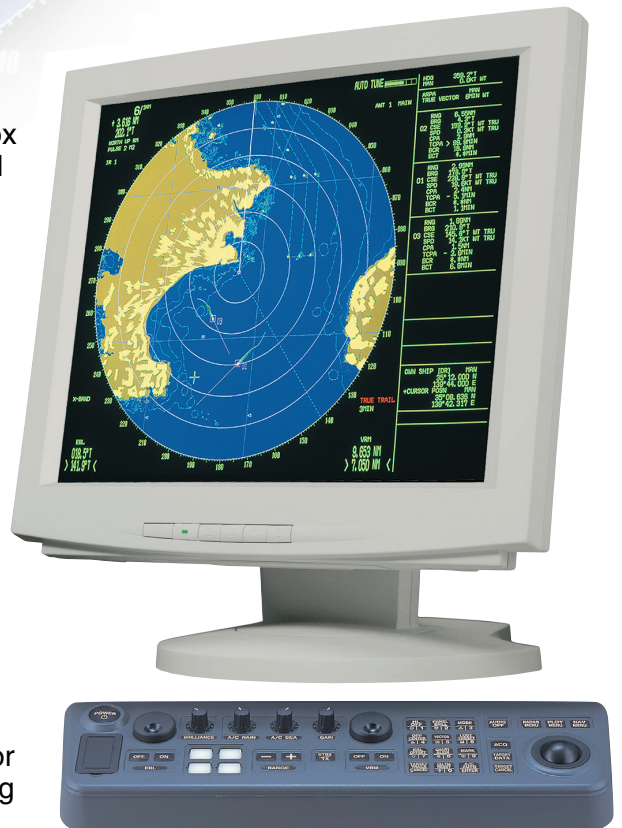


The BlackBox radar system FR-2115-B, FR-2125-B, FR-2155-B* and FR-2135S-B are custom configured by adding a user's favorite display to the blackbox radar package. The package is based on a Furuno standard radar used in the FR-21x5-B series with (FURUNO) monitor which is designed to comply with IMO Res MSC.64(67) Annex 4 for shipborne radar and A.823 (19) for ARPA performance. The display unit may be selected from virtually any size of multi-sync PC monitor, either a CRT screen or flat panel LCD display.

The blackbox radar system is suitable for various ships which require no specific type approval as a SOLAS compliant radar.

The radar is available in a variety of configurations: 12, 25, 30 and 50* kW output, short or long antenna radiator, 24 or 42 rpm scanner, with standard Electronic Plotting Aid (EPA) and optional Automatic Radar Plotting Aid (ARPA). These plotting aids help the operator monitor and adjust CPA, TCPA, vector lengths, acquisition of interested targets.

Radar echoes are presented in a selected color with a day or night background color for easy observation under all lighting conditions. Different colors are assigned for marks, symbols and text for user-friendly operation. The control unit has logically arranged controls in a combination of push keys, rotary controls and a well-organized menu structure.



The future today with FURUNO's electronics technology.

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Catalogue No. R-176b

TRADE MARK REGISTERED
MARCA REGISTRADA

SPECIFICATIONS OF FR-2115-B/2125-B/2155-B*/2135S-B BlackBox type

ANTENNA

- Radiator system** Slotted waveguide array
- Beamwidth**

Radiator Type	XN12AF	XN20AF	XN24AF	XN4A*	XN5A*	SN30AF*	SN36AF
Length	4 ft	6.5 ft	8 ft	8 ft	10 ft	9 ft	12 ft
Beamwidth (H)	1.8°	1.23°	0.95°	0.95°	0.75°	2.3°	1.9°
Beamwidth (V)	25°	20°	20°	20°	20°	25°	25°

- Rotation speed** 24 rpm or 42 rpm (option to FR-2115B/2125B with XN12AF or XN20AF only)

RF TRANSCEIVER (in scanner unit)

- Frequency**
X-band 9410 MHz, 9415 MHz* (50 kW)
S-band 3050 MHz (30 kW)
- Output Power** FR-2115-B: 12 kW, FR-2125-B: 25 kW,
FR-2155-B: 50 kW*
FR-2135S-B: 30 kW

3. Pulselength & PRR

Range scales	P/L (µs)	PRR (Hz)
0.125, 0.25	0.07	3000
0.5	0.07/0.15	3000
0.75, 1.5	2 from 0.07/0.15/0.3	3000/1500
3	2 from 0.15/0.3/0.5/0.7	3000/1500
6	2 from 0.3/0.5/0.7/1.2	1500/1000
12, 24	2 from 0.5/0.7/1.2	1000/600
48, 96	1.2	600

- IF amplifier** Logarithmic, IF: 60 MHz. BW: 28/3 MHz
- Noise Figure** 6 dB

DISPLAY REQUIREMENTS

- Non-Interlaced, Multi-sync PC Monitor (Owner supplied)**
Virtually any size including, 15", 17", 20", 21" and 28" CRTs, as well as Flat Panel color LCDs (SXGA 1280 x 1024)
- Minimum range and discrimination**
35 m
- Range Scales**
Range (nm) 0.125 0.25 0.5 0.75 1.5 3 6 12 24 48 96
Ring (nm) 0.025 0.05 0.1 0.25 0.5 1 2 4 8 16 16
(16, 32 and 120 nm range scales can be menu-added)
- Accuracy**
Range: 1 % of range in use or 15 m, whichever is greater
Bearing: Better than 1°
- Presentation** Head-up, Head-up TB, North-up, True Motion
Sea or ground stabilization
- Plotting facilities**
EPA: 10 targets by electric plotting aid (standard)
ARPA option: Automatic Radar Plotting Aid for 40 targets automatically or manually acquired, 2 guard zones 0.7 - 32 nm.
Common function: Adjustment and display of CPA, TCPA, GZ, ACQ range, vector length true or relative
- Radar map** Nav lines, coastlines, buoys, etc. produced by operator. 150 points x 10 areas stored in PROM.

INTERFACE (IEC 61162-1 & NMEA 0183)

- Input:** BWC, BWR, DBS, DBT, DPT, GGA, GLL, MTW, MWV, RMA, RMB, RMC, RTE, OSD, RSD, TTM, VBW, VDR, VHW, VTG, VWT, VWR, WPL, ZDA,
- Output:** TLL, RSD, TTM

POWER SUPPLY (Specify when ordering)

- AC set:** 115/230 VAC, 320 VA (FR-2135S-B), 360 VA (FR-2115-B), 410 VA (FR-2125-B), 490 VA (FR-2155-B)*
- DC set:** 24/32 VDC

* FR-2155-B having 50 kW output power or XN4A, XN5A radiator are not type approved.

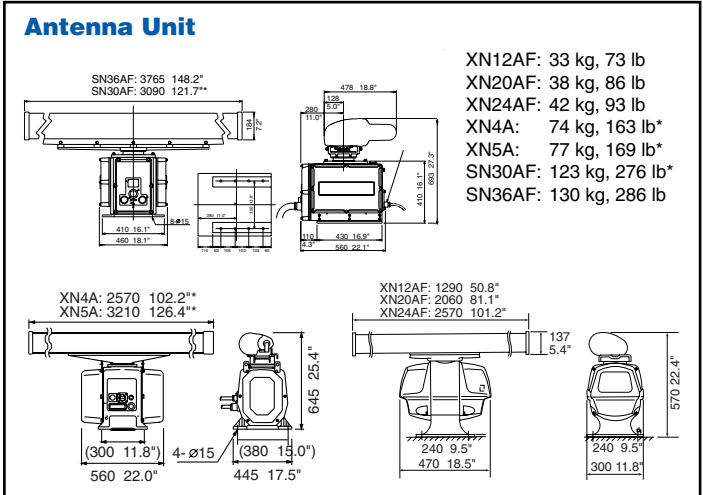
EQUIPMENT LIST

Standard

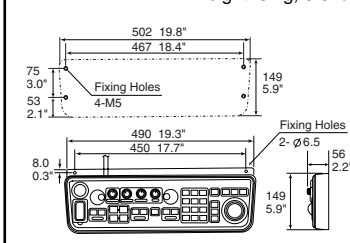
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|---|--------|
| 1. Antenna Unit | 1 unit |
| 2. Processor Unit RPU-011 | 1 unit |
| 3. Control Unit RCU-011 | 1 unit |
| 3. Installation Materials and spare parts | 1 set |

Optional

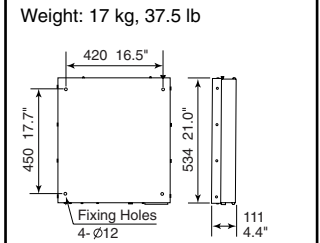
- Auto Plotter ARP-26 (ARPA module)
- VideoPlotter RP-26
- Chart ROM card for RP-26
- RAM card for RP-26
- 42 rpm gearbox RSB-0075 for FR-2115-B/2125-B
- Interswitch box RJ-7/8
- Gyro Interface GC-8
- Stepdown Transformer for 380/440 VAC
- Power Supply Unit PSU-001/001



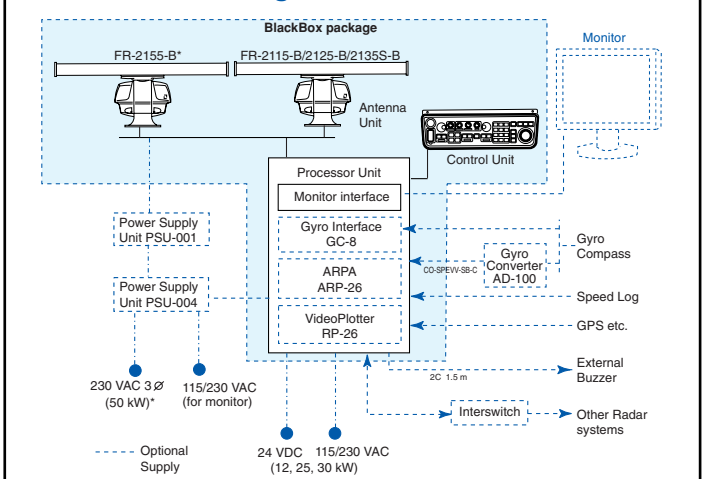
Control Unit Weight: 3 kg, 6.6 lb



Processor Unit Weight: 17 kg, 37.5 lb



Interconnection diagram



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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