

FURUNO

High Power X-Band Fishing Radar

Model **FAR-2258** 50 kw

Powerful X-Band Fishing Radar



Monitor (MU-190HD)

More details at
www.furuno.com

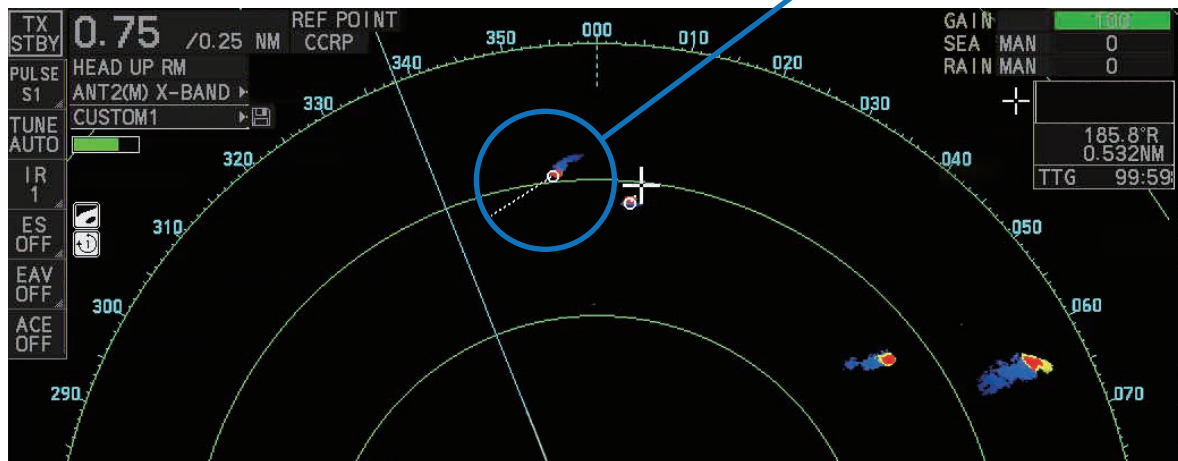




Powerful Radar delivers stronger and farther detection with very high resolution

With a high output power of 50 kW, it is an excellent Radar for long-range detection. The new and improved receiver reduces noise and ensures that even the weakest echoes are not missed and are presented clearly.

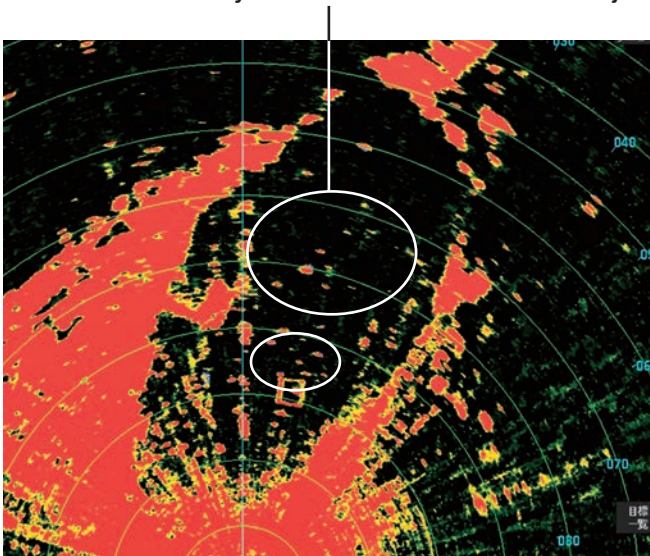
A skipjack boat, 24 nautical miles away, is shown on the screen



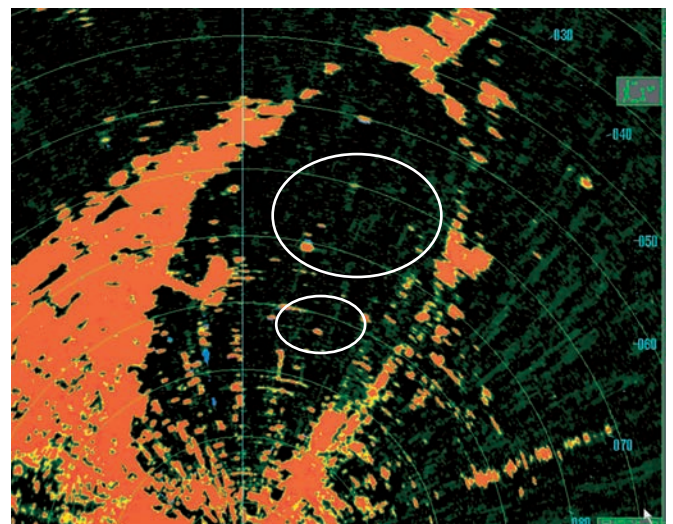
Improved detection performance compared to previous models

Comparison with a previous model in Osaka Bay

The increased accuracy allows for the detection of small objects that were previously undetectable.



FAR-2258



Previous model

High power, high resolution Excellent for long range detection Perfect for fishing

Function keys support up to 32 customizable features & settings

Each key can be assigned a single function or multiple functions. When [multiple functions] is selected, up to eight functions can be assigned to one key, which can be utilized by pressing the function key and then the numeric keypad. It is possible to assign up to 32 functions.



A menu is displayed according to the pre-registered keys, allowing the immediate use of the desired function.

F1 KEY EXECUTION	
1	TKR COLOR SEL
2	IR
3	Echo Stretch
4	EAV
5	ACE
6	AUTO-SEA
7	AUTO-RAIN
8	
9	F1 FUNCTION KEY
0	CLOSE

Function menu set to the F1 key

A total of 40 origin marks can be entered

The number of origin marks that can be entered has been increased from 20 (previous model) to a maximum of 40. By displaying a list of origin marks, the distance and direction from the registered position to the cursor can be determined at a glance.

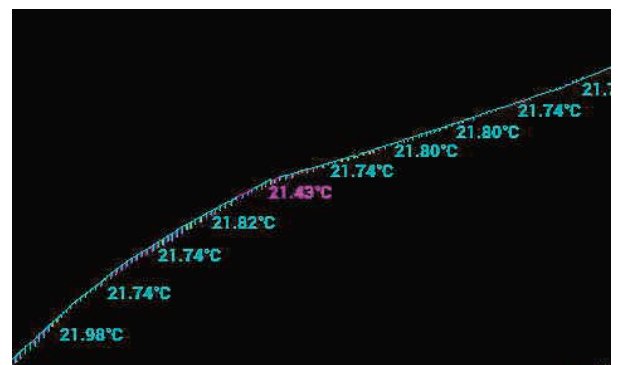
Additionally, users can choose between “sea fixed” (blue) and “land fixed” (green), plus, land fixed origin marks are backed up even after the power is turned off.



Check out about Furuno products and technology
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Easily identify fishing grounds with colored track lines

The water temperature is automatically displayed in the vessel track line, with the color changing according to water temperature. This allows the user to intuitively understand changes in water temperature and easily identify fishing grounds.



Intuitive off-center function with trackball

To off-center the display, the user can either move the cursor to the desired area or do so directly with the trackball when the cursor is hidden, which allows for intuitive use.



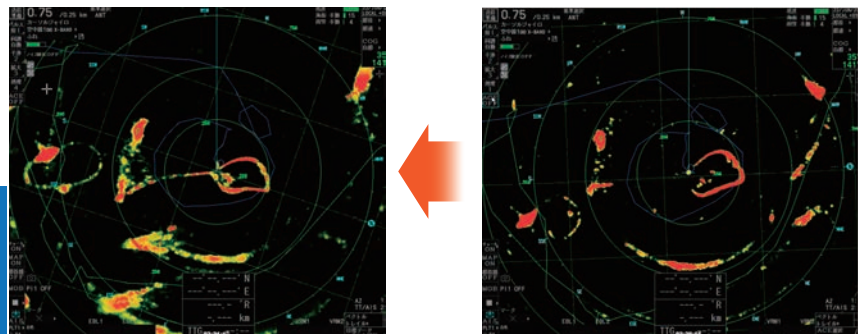
X-Band RADAR for Fishing

Model **FAR-2258**

Fishing gear echoes are easily visible with the addition of the Echo Average feature (EAV) and its wide dynamic range

The new wide dynamic range of the EAV function allows the display of both weak and strong echoes in a richly colored image as shown on the right.

Did you know? **EAV stands for Echo Average**
It is a signal processing technology that suppresses unnecessary echoes on the screen by utilizing image correlation techniques, making it easier to distinguish echoes

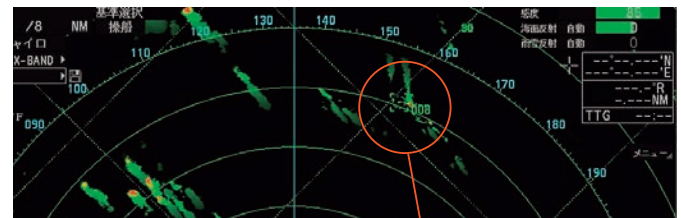


Echo Average with the wide dynamic range

The new wider dynamic range EAV removes unwanted echoes and clearly shows the shape of the net

TT target acquisition up to a distance of 48 NM

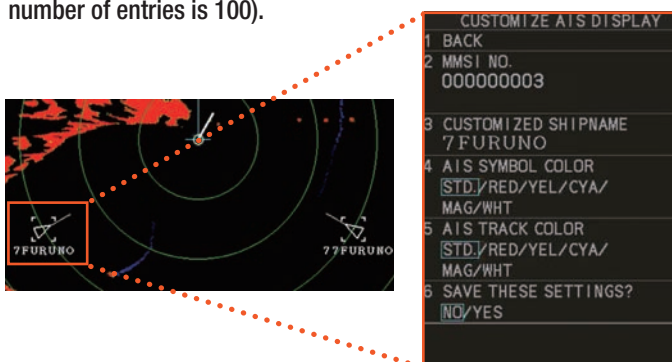
The FAR-2258 is capable of capturing targets within a range of 48 NM, whereas the previous model was limited to a distance of 32 NM. This allows users to keep a close eye on more distant targets.



Target 40 NM away acquired

AIS customization helps you keep an eye on other vessels

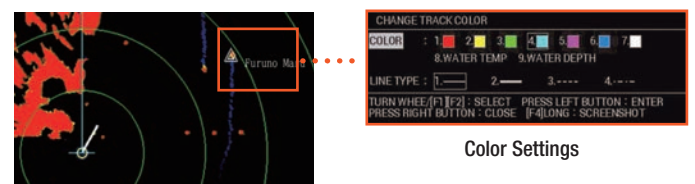
Users can register a color and a ship track color for each AIS target, so that you can identify other ships at a glance. (Maximum number of entries is 100).



Custom AIS Settings

TT custom settings make it easier to distinguish other ships!

Users can set the name, color, shape and track color of the acquired TT target. Custom TT settings can be pre-registered (up to 10) and these can be quickly assigned to targets.



Color Settings

X-Band RADAR for Fishing

Model **FAR-2258**

Specifications

ANTENNA UNIT

Antenna Type	Slotted Array	
	XN24AF	XN30AF
Length	240 cm	300 cm
Horizontal beam width	0.95°	0.75°
Vertical beam width	20°	
Sidelob within ±10°	-28 dB	-26 dB
Sidelob outside ±10°	-32 dB	-33 dB
Polarization	Horizontal	
Rotation	24 rpm	
Wind load	100 kn	70 kn

TRANSCIVER

TX Frequency and modulation	9410 MHz ±30 MHz, PON
Output power	50 kW

Range scale, Pulse Repetition Rate and Pulselength

PRR (Hz)	Range scale (NM)															
	0.125	0.25	0.5	0.75	1	1.5	2	3	4	6	8	12	16	24	32	48
1900	S															
1100	M1															
600	M2															
600	L															

PROCESSOR UNIT

Minimum range	33 m
Range discrimination	25 m
Bearing discrimination	1.2°(XN24AF), 1.0°(XN30AF)
Bearing accuracy	±1°

Range scale (RS) and Range ring interval (RI) in NM

RS (NM)	0.125	0.25	0.5	0.75	1	1.5	2	3	4	6	8	12	16	24	32	48	96
RI (NM)	0.025	0.05	0.1	0.25	0.25	0.25	0.5	0.5	1	1	2	2	4	4	8	8	16

Warm-up time	3 min. Approx.
Presentation mode	Head-up, STAB, head-up, Course-up, North-up (RM/TM), Stern-up
Marks	Cursor, Range ring, Heading mark, North mark, Bearing mark, Target trail, VRM, EBL, Acquisition zone
Target tracking(TT)	Auto or manual acquisition: 100 targets in 24/32/48 NM Auto tracking on all acquired targets, Tracking: 5/10 pts on all activated targets Vector time: Off, 30 s, 1-60 min
AIS	Display capacity: 350 targets Tracking: 5/10 pts on activated targets Vector time: Off, 30 s, 1-60 min
Echo Trail (True/Relative)	Trail length: 0-30 mins (every 30 Secs) or continuous
Radar map	20,000 pts
Acquisition zone	2 zones
Interswitch function	Selectable from menu

PLOTTER FUNCTIONS

Projection	Mercator
Useable area	85° latitude or below
Range (STBY)	0.025 to 120 NM, follows the radar range scale while transmitting
Memory capacity	
Own ship's track	30,000 pts (10,000 pts indicated)
Other ship's track	TT: 100,000 pts, AIS: 10,000 pts, consort ship: 10,000 pts, GPS buoy: 10,000 pts
Mark/line	30,000 pts
Waypoint	3,500 pts
Route	200 routes (1 route 100 pts)
External memory	1 route (100 pts)
Electronic chart	Mapmedia
Own ship's tracking	7 colors

MONITOR UNIT (OPTION)

Screen type	MU-190HD	MU-190	MU-231	MU-270W
Size	19-inch color LCD	19-inch color LCD	23.1-inch color LCD	27-inch color LCD
Resolution	1280 x 1024 (SXGA)	1280 x 1024 (SXGA)	1600 x 1200 (UXGA)	1920 x 1200 (WUXGA)
Brightness	1000 cd/m²	450 cd/m²	400 cd/m²	400 cd/m²
Visible distance	1.02 m	1.02 m	1.2 m	1.02 m
Radar effective diameter	282 mm	282 mm	331 mm	349 mm

INTERFACE

Number of port	(processor unit)
Serial	7 ports (IEC61162-1/2: 2 ports, IEC61162-1: 4 ports, AD-10: 1 port)
Alarm output	6 ports: contact signal, load current 250 mA (Normal close/ open: 4, System fail: 1, Power fail: 1)
DVI output	2 ports: DVI-D, DVI-I or RGB picture data (for VDR) (RGB resolution 1280x1024 (SXGA), 60.0Hz or 1440x900 (WXGA+), 59.9Hz)
LAN	2 ports: Ethernet 100Base-TX
USB	2 ports: USB flash memory and mouse/keyboard
RS-232C	1 port: brilliance control
Sub display(for ECDIS)	2 ports: HD, BP, Trigger and Video signal
Data sentences (IEC61162-1/2)	
Input	ABK, ACK, ACN, ALR, BWC, BWR, CUR, DBK*, DBS*, DBT, DDC, DPT, DTM, GGA, GLL, GNS, HBT, HDG, HDM, HDT*, MTW, MWV, OSD, RAQ, RMB, RMC, ROT, RTE, THS, TLL, TTM, VBW, VDM, VDO, VDR, VHW, VSD, VTG, VWR*, VWT*, WPL, ZDA
Output	ABM, ACK, AIQ, ALC, ALF, ALR, ARC, BBM, DDC, EVE, HBT, OSD, RSD, TLB, TLL*, TTD, TTM, VSD

Ethernet interface for IEC61162-450

Port (LAN2)	100Base-TX, IPv4, 8P8C connector
IEC61162-450 transmission group	
Input	MISC, TGTD, SATD, NAVD, TIME, PROP
Output	Arbitrary (default: TGTD)
Multicast address	239.192.0.1 to 239.192.0.16
Destination port	60001 to 60016
Re-transmittable binary image transfer	
Multicast address	239.192.0.26 to 239.192.0.30
Destination port	60026 to 60030
Other network function excepted IEC61162-450	
SNMP, HTTP, Syslog, Furuno Management Protocol (FMP)	

Input/Output port on antenna unit

Input port	1 port: HD, BP, Trigger and Video signal
Output port	3 port: HD, BP, Trigger and Video signal

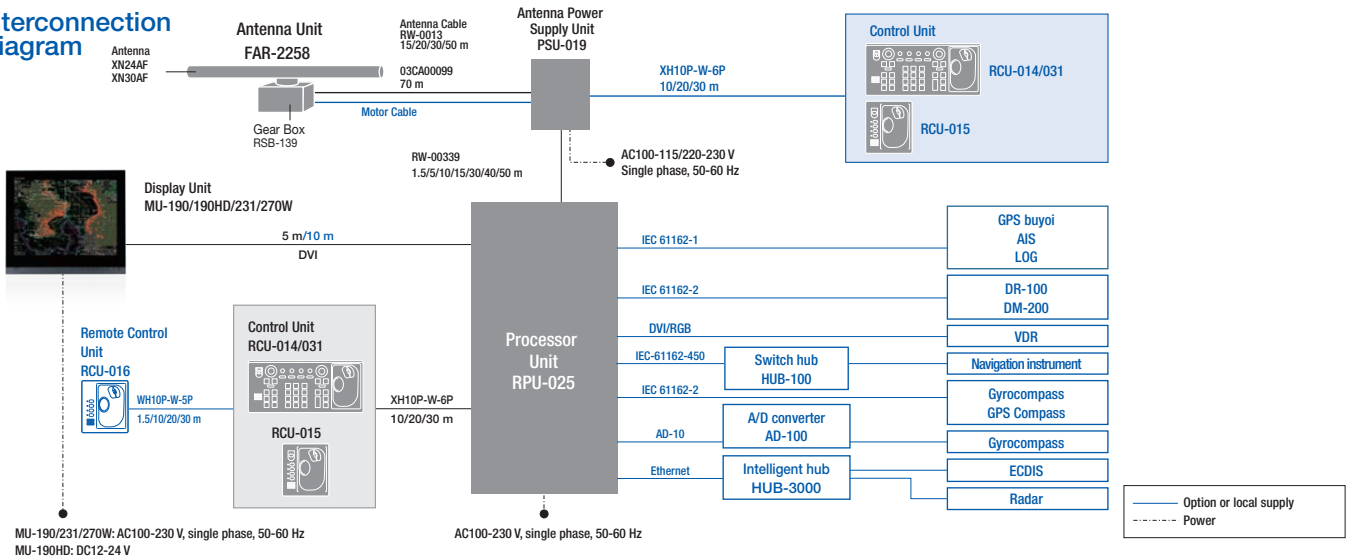
POWER SUPPLY

Power supply unit	100-115/220-230 VAC: 3.1/1.5 A, 1 phase, 50-60 Hz
Processor unit	100-230 VAC: 2.2/1.1 A, 1 phase, 50-60 Hz
Monitor unit	MU-190 100-230 VAC: 0.7-0.4 A, 1 phase, 50-60 Hz MU-190HD 12-24 VDC / 8.4-3.9 A
	MU-231 100-230 VAC: 1.0-0.6 A, 1 phase, 50-60 Hz MU-270W 100-230 VAC: 0.7-0.4 A, 1 phase, 50-60 Hz
Hub (Option)	100-230 VAC: 0.1 A, 1 phase, 50-60 Hz

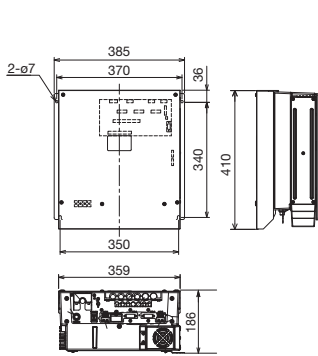
ENVIRONMENTAL CONDITIONS

Ambient temperature	Antenna unit -25°C to +55°C (storage: -25°C to +70°C) Indoor unit -15°C to +55°C (storage: -15°C to +70°C)
Relative humidity	93% or less at +40°C
Degree of protection	Antenna unit IP56 Power supply unit IP22 Processor unit IP22 Control unit IP20 (RCU-014/015/016), IP22 (RCU-031) Hub IP20 (HUB-100), IP22 (HUB-3000)
Vibration	IEC 60945 Ed.4

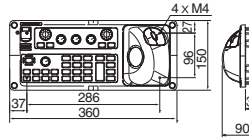
Interconnection Diagram



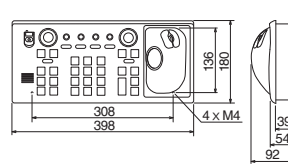
Processor Unit RPU-025 9.6 kg



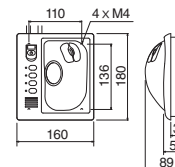
Compact Control Unit RCU-031 2.2 kg



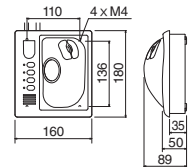
Remote Control Unit RCU-014 2.5 kg



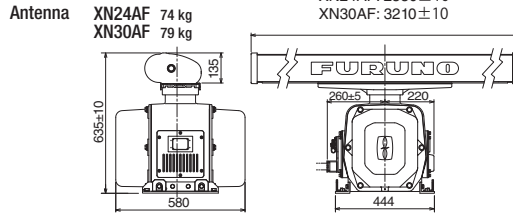
Trackball Control Unit RCU-015 2.4 kg



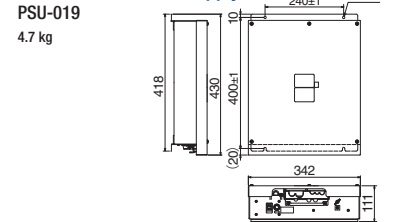
Remote Control Unit RCU-016 2.4 kg



Antenna Unit

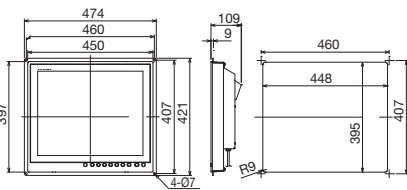


Antenna Unit Power Supply PSU-019 4.7 kg

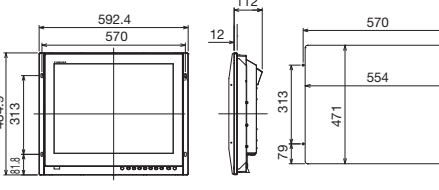


Display Unit

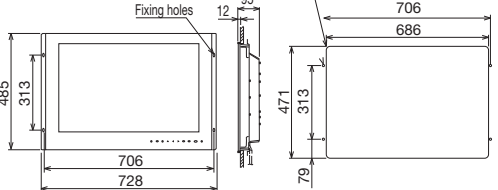
MU-190/MU-190HD Flush mount type 8.8 kg



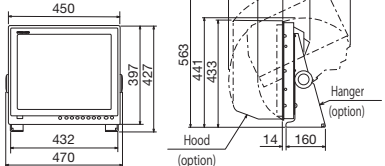
MU-231 Flush mount type 13 kg



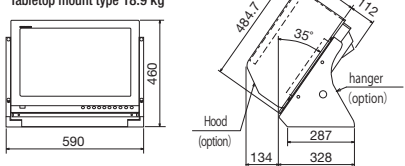
MU-270W Flush mount type 13 kg



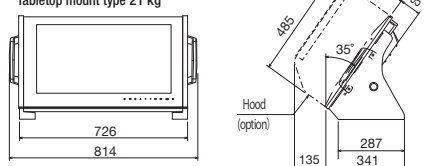
Tabletop mount type 11.0 kg



Tabletop mount type 18.9 kg



Tabletop mount type 21 kg



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