

FURUNO

High Power S-Band Fishing Radar

Model **FAR-2268DS** (60 kW)

Reliable S-Band Fishing & Bird Radar



S-Band Antenna (SN36AF)

Monitor (MU-192HD)



More details at
www.furuno.com





S-Band RADAR for Fishing

Model **FAR-2268DS**

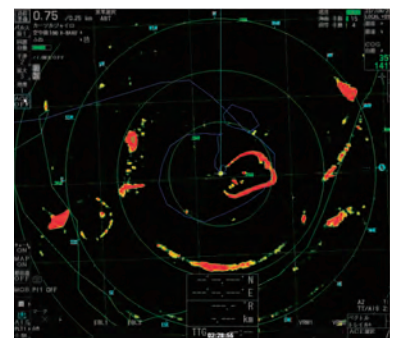
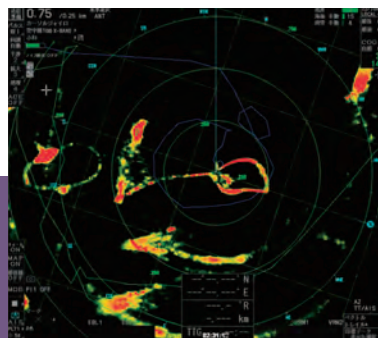
Fishing gear echoes are easily visible with the addition of the Echo Average feature (EAV) and its wide dynamic range

The new wide dynamic range signal 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

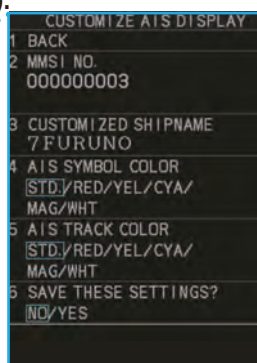
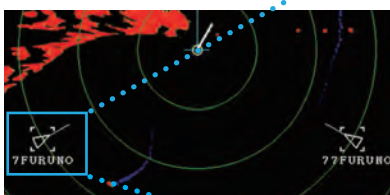
With Target Tracking (TT), the FAR-2268DS is capable of capturing targets within a range of 48 NM, whereas the previous model was limited to a distance of 32 NM. This allows users to keep a close eye on more distance targets.



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 shps!

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

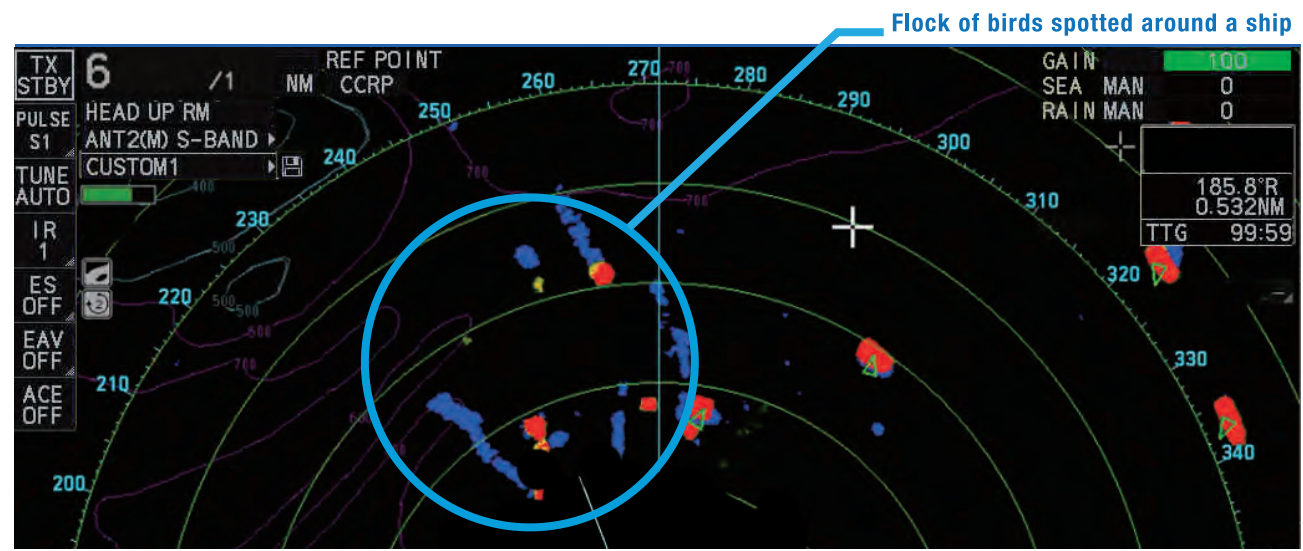


Color Settings



Gain in Searching POWER with S-band antennas

The benefit of S-band antennas lie not only in their signal strength of 60 kW, but also in their capability to detect objects other than ships without being disturbed by weather or sea swell. With the FAR-2268DS, the user will be able to find birds and therefore determine the location of promising fishing ground.



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.

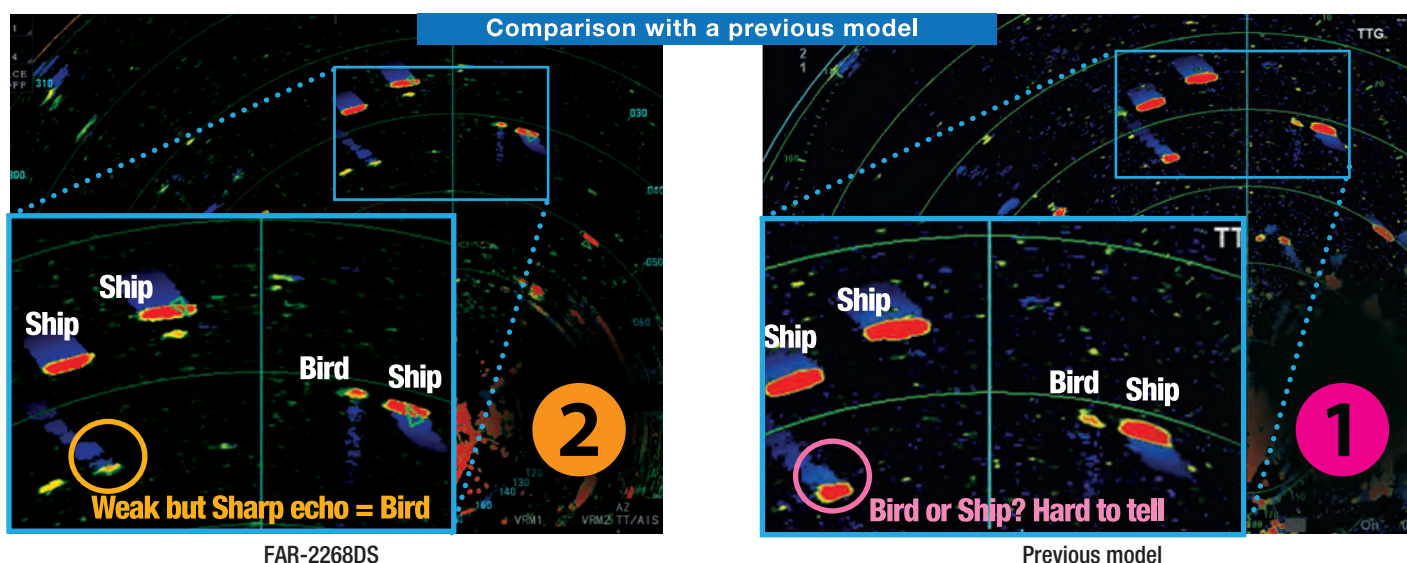
F1 KEY EXECUTION	
1	TKR COLOR SEL
2	IR
3	Echo Stretch
4	EAV
5	ACE
6	AUTO-SEA
7	AUTO-RAIN
8	
9	F1 FUNCTION KEY
0	CLOSE

Function menu set to the F1 key

High power, High resolution, Reliable in any kind of weather Perfect to find birds

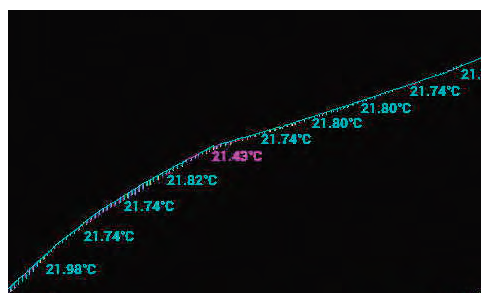
Improved detection performance and accuracy at long range compared to previous models

While echoes can sometimes appear too faint or too large and be mistaken for a ship (❶), the new FAR-2268DS really makes a difference and uses its accuracy to distinguish echoes while making the whole presentation much sharper and clearer. (❷)



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.



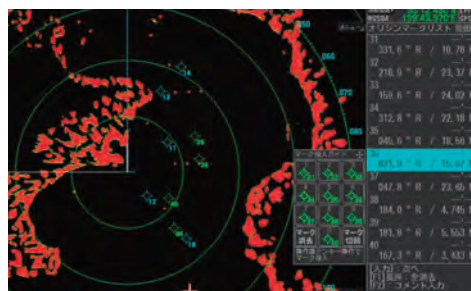
Intuitive off-center function with trackball

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.

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 at www.furuno.com

S-band RADAR for Fishing

Model FAR-22680S

Specifications

ANTENNA UNIT

Antenna Type	Slotted Array		
Length	SN30AF 320 cm	SN30AF 380 cm	SN30DF 320 cm
Horizontal beam width	2.3°	1.8°	2.3°
Vertical beam width	25°		22°
Side lobe within ±10°	-24 dB	-24 dB	-24 dB
Side lobe outside ±10°	-30 dB	-30 dB	-30 dB
Polarization	Horizontal		
Rotation	24 rpm		
Wind load	70 kn		

TRANSCIVER

TX Frequency and modulation	3050 MHz ±30 MHz, PON
Output power	60 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	37 m
Range discrimination	32 m
Bearing discrimination	2.5°(SN30AF), 2.0°(SN36AF), 2.5°(SN30DF)
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 24/48 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-192HD	MU-190	MU-270W
Size	19-inch color LCD	19-inch color LCD	27-inch color LCD
Resolution	1280 x 1024 (SXGA)	1280 x 1024 (SXGA)	1920 x 1200 (WUXGA)
Brightness	1000 cd/m ²	450 cd/m ²	400 cd/m ²
Visible distance	1.02 m	1.02 m	1.02 m
Radar effective diameter	282 mm	282 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 1280 x 1024 (SXGA), 60.0 Hz or 1440 x 900 (WXGA+), 59.9 Hz)
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, DBX*, 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 600016
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 ports: HD, BP, Trigger and Video signal

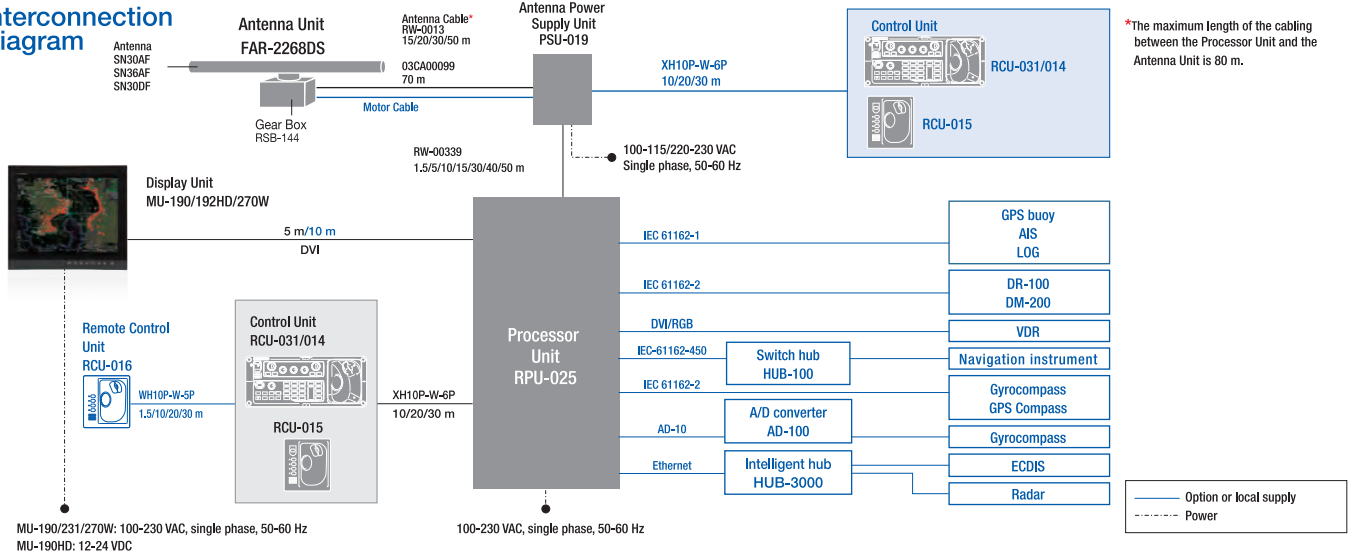
POWER SUPPLY

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: 0.5-0.4 A, 1 phase, 50-60 Hz MU-192HD 12-24 VDC/4.9-2.3 A 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 IP46 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



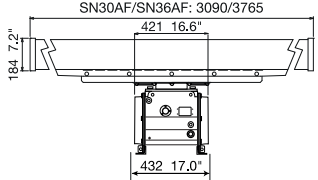
*The maximum length of the cabling between the Processor Unit and the Antenna Unit is 80 m.

MU-190/231/270W: 100-230 VAC, single phase, 50-60 Hz
MU-190HD: 12-24 VDC

100-230 VAC, single phase, 50-60 Hz

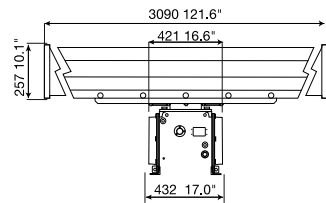
Antenna Unit

Antenna SN30AF 134 kg (295 lbs)
SN36AF 140 kg (308 lbs)



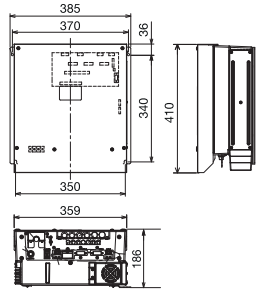
Antenna Unit (Hi-G)

Antenna SN30DF 137 kg (302 lbs)



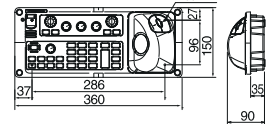
Processor Unit

RPU-025 9.6 kg

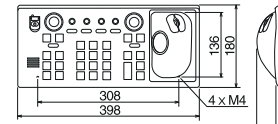


Control Unit

RCU-031 2.2 kg

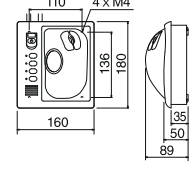


RCU-014 2.5 kg



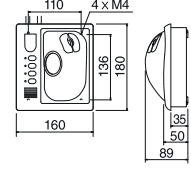
Trackball Control Unit

RCU-015 2.4 kg



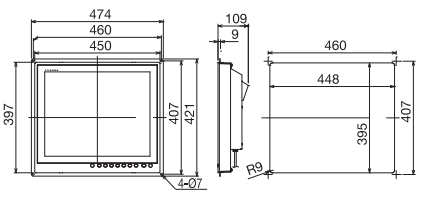
Remote Control Unit

RCU-016 2.4 kg

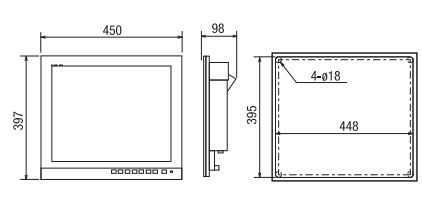


Display Unit

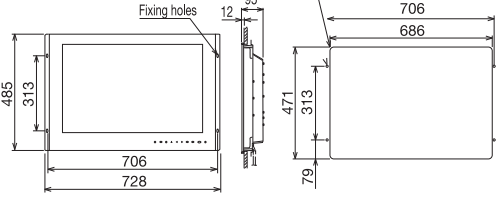
MU-190 Flush mount tye 8.8 kg



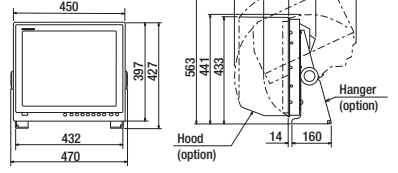
MU-192HD Flush mount tye 6.6 kg



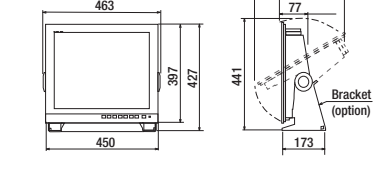
MU-270W Flush mount tye 13 kg



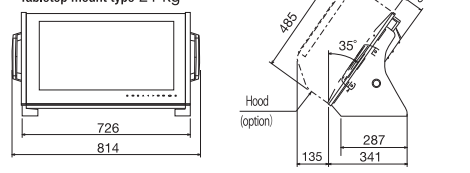
Tabletop mount tye 11.0 kg



Tabletop mount tye 9.7 kg



Tabletop mount type 21 kg



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