19-inch Color LCD Marine Radar / ARPA

MDC-2900P Series

KODEN

Confidence with Great Performance

Automatic Radar Plotting Aid

SPECIFICATIONS

Antenna-Scanner unit

Model	MDC-2910P / BB	MDC-2920P / BB
Antenna type	Open antenna	
Antenna length	Antenna length 4feet / 6feet / 9feet	
Power output (peak)	12 kW	25 kW
Output frequency	9410 MHz ± 30MHz	
Horizontal beam width	4 feet : 1.8° / 6 feet : 1.2° / 9 feet : 0.8°	
Vertical beam width	4,6 feet : 22°/ 9 feet : 25°	
Rotation	24 rpm	
IF center frequency	60 MHz	
Range accuracy	7 meters or 1% of the range scale selected, whichever is the greater	
Minimum detecting distance	within 40 m	
Range resolution	within 40 m	
Warm-up time	2 min	3 min
Pulse width	0.08 us, 0.2 us, 0.3 us, 0.6 us, 1.2 us	

Environmental

Water protection	IPX6
Operating temperature	-25°C to +55°C

Display unit / Processor unit for BB type

Model	MDC-2910P / BB	MDC-2920P / BB
Basic range	0.125 to 72 NM	0.125 to 96 NM
Display unit	MRD-105P**	
Display size / type	19 inch color TFT LCD**	
Processor unit (BB type only)	MRM-105P	
Effective diameter	278 mm	
Display resolution	1280 x 1024 pixels	
Off-centering	Max. 72%	
Echo area	1 type (Inside of effective diameter)	
Presentation modes	Head-up, North-up*, Course-up*	
Range Rings interval	0.0625(0.125,0.25), 0.125(0.5,0.75), 0.25(1.5), 0.5(3), 1(6), 2(12), 4(24), 8(48), 12(72), 16(96) ( ): Range scales	
Range scales	0.125,0.25,0.5,0.75,1.5,3,6,12,24,48,(72),(96) nm 72nm: 12kW only. 96nm: 25kW only.	
Video level	8 levels	
Distance unit	NM	
Functions	CFAR (Clutter rejection), Interference rejection, Enhance (Target expansion), Process (Averaging), VRM, EBL, Parallel index, ERBL, Cursor position (Lat/Lon), Bearing (true/relative), Trail* (true/relative), Own ship past track, MAP (Event mark, etc), Analog RGB output, Trial Manoeuvre	
Input / Output data format	IEC61162-1/-2	
Input data sentence	BWC, DBT, DPT, DTM, GGA, GLC, GLL, GNS, HDG, HDT, HDM, MTW, RMA, RMB, RMC, RTE, THS, VBW, VDR, VHW, VTG, WPL, XTE, ZDA	
Output data sentence	RSD, OSD, TLB, TTD, TTM	
AIS interface	254 Targets*	
TT (ARPA)	Auto/Manual 60 Targets*	
Power supply	21.6 to 41.6 VDC	
Power consumption(at 24VDC)	150W or less	200W or less

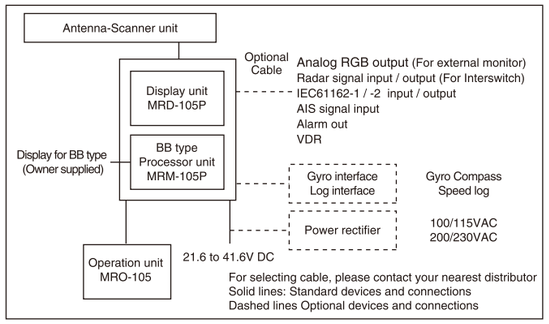
Environmental

Water protection	-
Operating temperature	-15°C to +55°C

* Requires heading, speed, and / or position signal input from external equipment including GPS Compass depending on application of user.

** Deselect BB type

CONNECTIONS



EQUIPMENT LIST

Standard Equipment

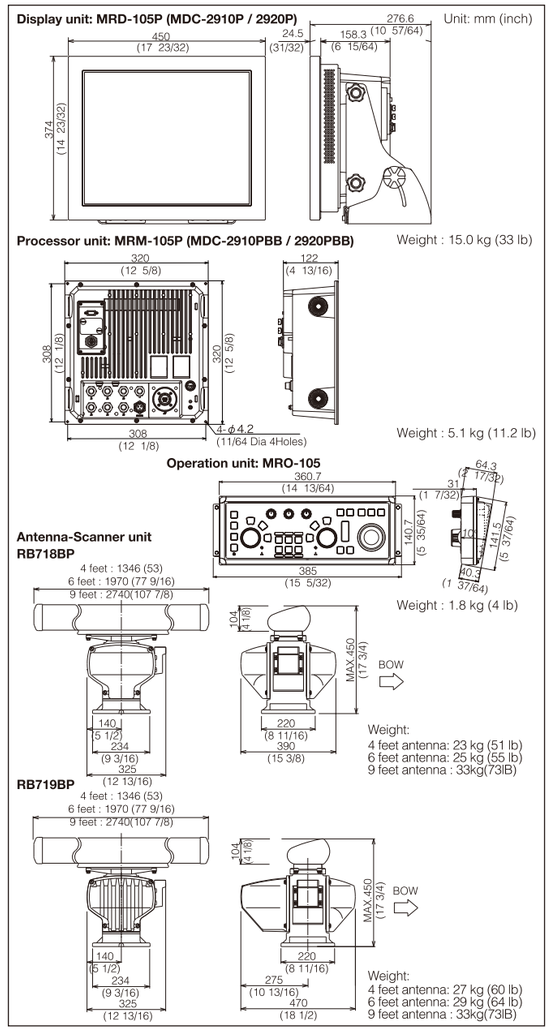
Scanner unit	RB718BP	12 kW	MDC-2910P / BB
	RB719BP	25 kW	MDC-2920P / BB
Antenna unit	RW701A-04	4 feet	
	RW701A-06	6 feet	
	RW701B-09	9 feet	
Display unit	MRD-105P**		
Processor unit (BB type only)	MRM-105P		
Operation unit	MRO-105	With 2 m connecting cable	
Connecting cable	242J159098B-15M	15 m with connectors on both ends	
DC power cable	CW-259-2M	2m	
Operation manual, Installation manual, Installation material, Fuse			

Option

Gyro interface unit, Log interface unit, Power rectifier, AC power cable, Connecting cables

**Deselect BB type

DIMENSIONS AND WEIGHT



• Design and specifications are subject to change without notice.

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Safety precaution To ensure proper and safe use of the equipment, please carefully read and follow the instructions in the Operation Manual.

For details, please contact:

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Designed to comply with New IMO and IEC regulations:
IMO A.278 (VIII) / IMO A.694(17) / IMO A.813(19)
IMO MSC.191(79) / IMO MSC.192(79) / IMO MSC.64(67)
IEC 62388 / IEC62288 / IEC60872-1
IEC 61993-2 / IEC 60945 / IEC 61162-1 / IEC61162-2

MDC-2900P Series IMO Radars

MDC-2910P / MDC-2910PBB: 12 kW 4 feet / 6 feet / 9 feet Open
MDC-2920P / MDC-2920PBB: 25 kW 4 feet / 6 feet / 9 feet Open

MDC-2900P Series is designed to comply with the new IMO regulations and meet the SOLAS carriage requirements for ships up to 10,000 gross tons. Providing outstanding Performance and Clear Image.

MDC-2910P/MDC-2920P have 19-inch high-resolution SXGA display with anti-reflective coating. MDC-2910PBB/MDC-2920PBB Black box radars connect to specified IMO approved SXGA type display (owner supplied).

These radars feature sophisticated "Strong Signal Processing" for real-time presentation and superior target discrimination. This special signal processing provides a steady image even in case of unstable targets.

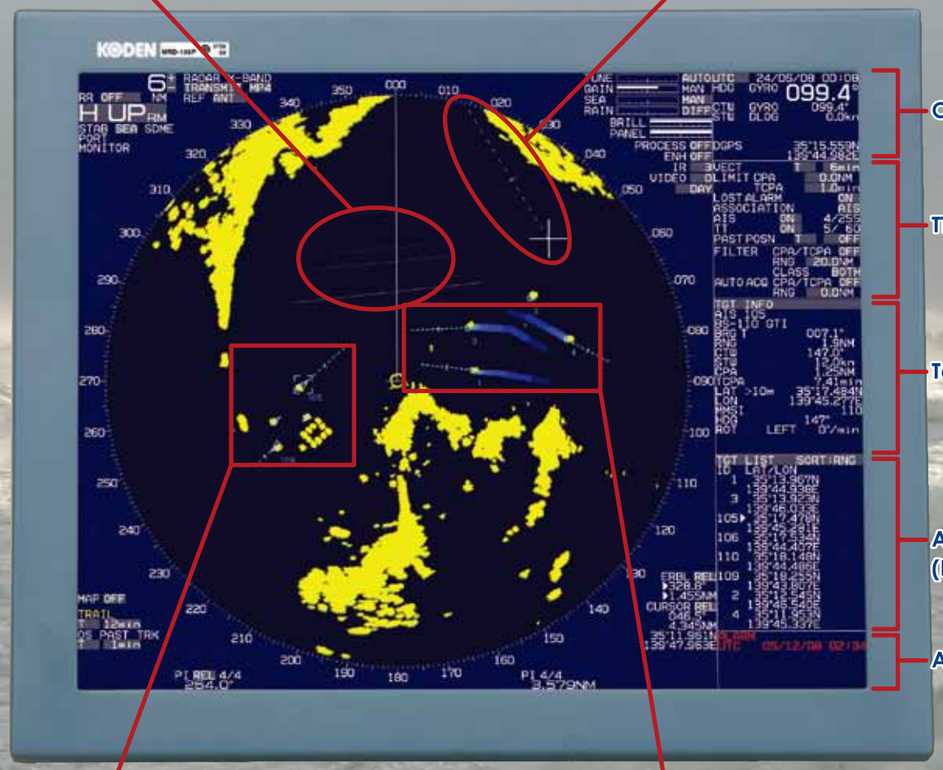
Other superior features are Enhance(ENH), Interference Rejection (IR), Range Rings (RR), VRM, EBL, Trail (True/Rel), Off center, Echo alarm, NAV line , Coast line, Route map, Guard zone, Monitor output, VDR output. Interswitch function for connecting two radar displays without an extra device. Full ARPA functions including trial manoeuvre are provided.

New Parallel Index Lines (PI)

Each parallel line can be used independently, User can move each line and adjust the length freely.

New Electronic Range and Bearing Line (ERBL)

User can control the cursor freely by trackball and measure the distance and direction from the cursor to the dotted line extended.



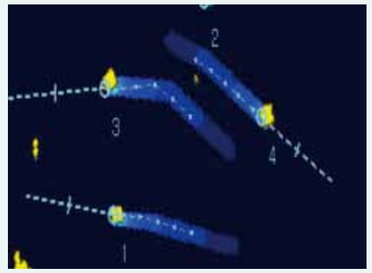
AIS

Built-in AIS interface for displaying up to 254 targets.

TT (ARPA)

Built-in TT (ARPA) tracks up to 60 targets.
Selectable auto acquisition or manual acquisition.

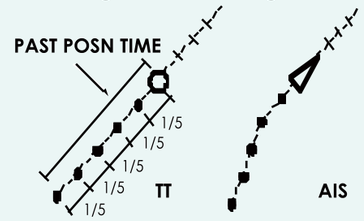
New True Trail Function



Clearly identifies moving targets from stationary targets. The display shows exact movement of other vessels like drawing tails. Even when your range is changed, a new trail appears past drawing tails. 3 types of shape are available.

PAST POSN (Past position)

Showing past position with 5 dots for the TT targets and AIS targets.

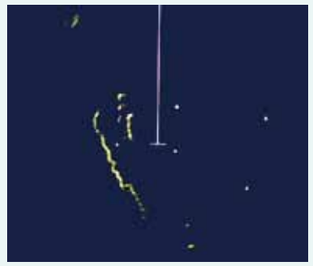


New CFAR Function

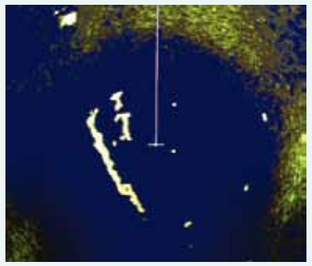
This function is semi-automatic clutter suppression. In comparison with conventional SEA + RAIN, the targets will not shrink.

CFAR

SEA + RAIN



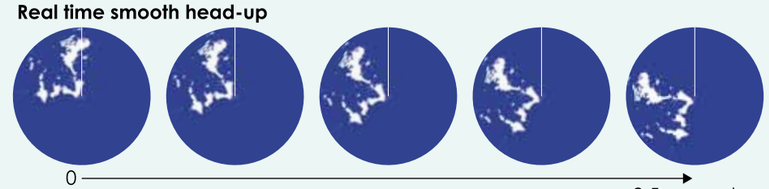
SEA



Real-time Smooth Head-Up Presentation

Display the exact direction and position of the target in real time.
When own vessel changes heading, the radar image will rotate smoothly in real time, unlike conventional rotation where the image redraws with each radar sweep.

Real time smooth head-up



Conventional head-up

※ In case own vessel changes heading 90 degrees to the right, during one rotation of antenna in 2.5 seconds (24 rpm)

Easy Operation

Designed for easy access to all system functions with well-arranged keyboard.
Six programable function keys let user customize set-up of various functions.
GAIN, SEA, RAIN, EBL, and VRM are adjustable with one touch by using control knobs.
Trackball is lit green with LED lamp and the lamp flashes in red when alarm is activated.

Trackball with LED