

# KODEN

## 15-INCH, HIGH-RESOLUTION COLOR LCD RADAR

# MDC-1541/1540/1560/1510

*Dual radar screens on a large Liquid Crystal Display, providing crisp and clear picture!*

The following antenna units are available:

MDC-1540: 3 ft/4 ft, 4 kW, Open Antenna

MDC-1541: 2 ft, 4 kW, Radome

MDC-1560: 4 ft/6 ft, 6 kW, Open Antenna

MDC-1510: 4 ft/6 ft, 12 kW, Open Antenna



## FEATURES

### • Dual radar screen on a large, wide flat display

The dual radar screen shown on the 15-inch color Liquid Crystal Display provides constant vigilance in short and long ranges at the same time. Each screen can be controlled independently for Range, Gain, Anti-Sea Clutter and Anti-Rain Clutter.

### • Semi-3D display

Radar echoes are shown in realistic visual impressions by signal strength and are displayed on the Mercator type grid. The semi-3D display can be shown together with normal radar screen.

### • Auto gain and clutter controls are standard

Using the AUTO key, your radar settings become automatic for the Gain and Anti-Sea Clutter and Anti-Rain Clutter controls. The radar's computer expertly sets Gain, STC, and FTC levels, allowing the operator to concentrate on other tasks. Previously, these features were found only in larger and more expensive radar systems.

### • ATA (Automatic Tracking Aid)

The ATA is featured as standard, providing automatic tracking for up to 10 assigned targets. Using this feature, target movement can be represented in vector form as well as numeric form, providing necessary data for assessing the risk of collision.

### • High speed antenna

A 48-rpm antenna turning rate is available via the menu for a high-speed craft that requires fast picture update to avoid collisions.

### • Multi-color radar picture

The radar picture can be changed to a multi-color presentation allowing each echo to be displayed in a different color depending on the signal strength.

### • Semi-continuous range scales

Closely separated range scales are available via the menu. The scale value increases or decreases by approximately 10% of the range in use. This feature is essential for navigation in congested waters, rivers and canals, which requires constant vigilance.

### • On screen Multi-languages

Fifteen languages are available as standard and can be selected via the menu. These include; Chinese, Danish, English, French, German, Greek, Italian, Japanese, Korean, Norwegian, Portuguese, Russian, Spanish, Swedish, and Turkish.

### • One-key-one-function plus menu operation

Six dedicated key switches are provided for fundamental radar controls, such as range scale, brilliance, Gain, Anti-Sea Clutter and Anti-Rain Clutter. Plus, a variety of advanced functions are also available via the menu.

### • User defined keys

Frequently used functions can be assigned to six user-defined keys. Available functions total 24, and are assorted into 4 groups. You can customize this radar to your own operational needs.

### • Rotary control

One large rotary control is provided for quick and easy operation controlling EBL, VRM, Gain, Anti-Sea Clutter and Anti-Rain Clutter. No more cumbersome key controls are needed, such as, up and down, right and left.

### • Splash proof display

The display unit can be installed even in places where water splash is frequent such as the fly bridge, open deck, etc.

## SPECIFICATIONS

### Antenna unit

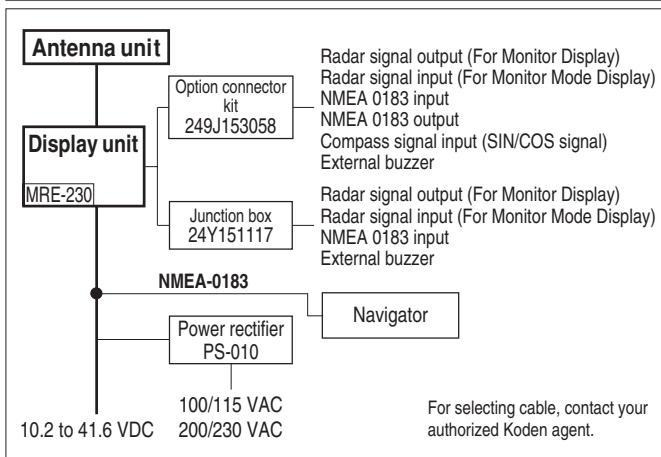
Model	MDC-1541	MDC-1540	MDC-1560	MDC-1510
Aerial	2 feet (radome)	3 feet/4 feet	4 feet/6 feet	4 feet/6 feet
Peak power output	4 kW		6 kW	12 kW
Transmitting frequency	9410 ± 30 MHz			
Beam width	Horizontal	3.9 °	2.5 °/1.8 °	1.8 °/1.2 °
	Vertical	25 °	22 °	
Rotation	24 or 48 rpm			
Pulse length (μsec)/ PRF (Hz)	S	0.08 / 2000	0.08/2,000	
	M1	0.25 / 1,500	0.3/1,500	
	M2		0.6/1,000	
	L	0.8 / 600	1.0/500	
IF center frequency	60 MHz			
Noise figure	6.5 dB or less			
Operating temperature	-25 °C to +55 °C (-13 °F to +131 °F)			
Operation in wind (relative)	100 knots (with 10 m connecting cable)			

### Display unit

Display	15-inch color LCD (TFT)			
Resolution	640 x 480 pixels			
Video level	4 levels			
Indication system	PPI, PPI + semi-3D, split radar range			
Presentation modes	Head up, *north up, **course up, ***true motion			
Range scales (nm)	0.125	0.25	0.5	0.75 1.5 3 6 12 24 36 (48) (64) (72)
Rings interval (nm)	0.0625	0.0625	0.125	0.25 0.5 1 2 4 6 (8) (16) (12) (48)/(8); MDC-1540/1560/1510, (64)/(16); MDC-1560, (72)/(16); MDC-1510
Off-center	Can be 100% off-centered over the full range			
Echo trail interval	Continuous, 15, 30 sec., 1, 3, 6 min.			
Alarm	IN and OUT alarms			
Minimum range	Better than 25 m on 0.125 nm range			
Range discrimination	Better than 25 m			
Range accuracy	Better than 8 m (26 feet) or 0.9 % of the maximum range of the scale in use, whichever is the greater			
Bearing accuracy	Better than ± 1 °			
Navigation data display	Boat position (Latitude/longitude), bearing and speed			
Other functions	Gain, STC, FTC, auto tuning, heading marker off, Interference rejection, target expansion, zoom, two VRMs, two EBLs (0.1 ° step), floating EBL/VRM, cursor position (latitude/longitude), parallel cursor, bearing (true/relative), distance unit (nm/km), signal processing, location memory, intermittent transmission, ATA, night display			
Input data format	NMEA-0183 (BER, BEW, BPI, BWC, BWR, DBT, DPT, GGA, GLL, HDG, HDM, HDT, HSC, MTW, RMA, RMB, RMC, VHW, VTG, XTE)			
Power supply	10.2 to 41.6 VDC			
Power consumption	75 W or less	90 W or less	100 W or less	110 W or less
Operating temperature	0 °C to +55 °C (+32 °F to +131 °F)			

\* North up, \*\*course up mode : Bearing data from an electric compass, a gyro compass or a navigator is required.  
 \*\*\* True motion : Speed data from a speed log, and Bearing data from an electric compass, a gyro compass or a navigator is required.

## CONNECTIONS



## EQUIPMENT LIST

### Standard equipment

Antenna unit	RB715A	2 feet, MDC-1541	1	
	Aerial	RW701A-03		3 feet, MDC-1540
		RW701A-04		4 feet, MDC-1540/1560/1510
		RW701A-06		6 feet, MDC-1560/1510
Transceiver	RB716A	MDC-1540		
	RB717A	MDC-1560		
	RB718A	MDC-1510		
Display unit	MRD-96	With hard cover	1	
Connecting cable	242J158055A	10 m (32 13/16 ft), with two connectors, MDC-1541	1	
	242J159098A	10 m (32 13/16 ft), with two connectors, MDC-1540/1560/1510		
DC power cable	CW-249	2 m (6 9/16 ft), with a connector and one end plain	1	
Spare parts kit			1 set	
Installation materials			1 set	
Operation manual			1	

Note: Other cable length selections available : 15 m, 20 m, 30 m.

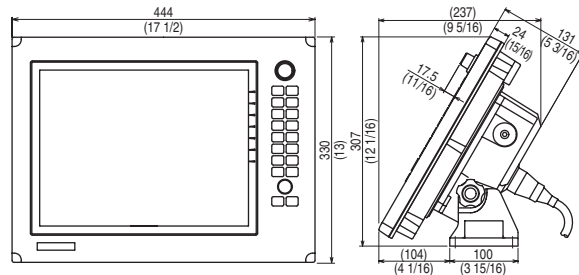
### Option

Option connector kit	249J153058	For external connection
Junction box	24Y151117	For external connection, with 1.5 m (4 15/16 ft) cable
Power rectifier	PS-010	With two 5 A fuses
AC power cable	VV-2D8	3 m (9 13/16 ft), both ends plain

## DIMENSIONS AND WEIGHT

### Display unit MRD-96

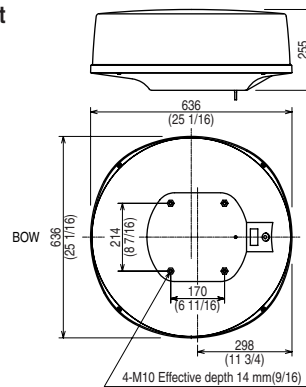
Unit: mm (inch)



### Antenna unit

#### RB715A

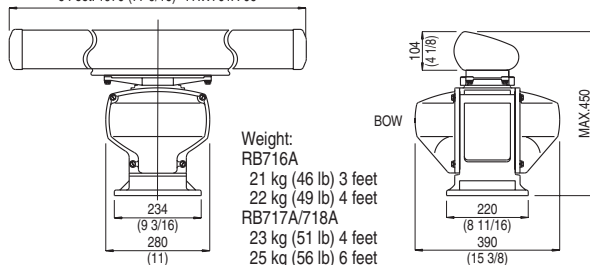
Weight: 7.8 kg (17.2 lb)



#### RB716A/717A/718A

3 Feet: 1034 (40 11/16) : RW701A-03  
 4 Feet: 1346 (53) : RW701A-04  
 6 Feet: 1970 (77 9/16) : RW701A-06

Weight: 10 kg (22.5 lb)



\* Specifications subject to change without notice.

# KODEN

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Certified to ISO 9001 ( TUV PRODUCT SERVICE )



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: