

X-BAND

- 20" or 23" LCD flat panel super TFT - exceeding 340 mm PPI equivalent;
- Very versatile solution allowing maximum configurability according to customer requirements;
- Suitable for helo decking applications when fitted with tilt system;
- Proven state of the art technology in a new engineering suite;
- **VIDEO INTENSIFIER** An improved Scan-to-Scan technique for a superior very small target detection in heavy sea clutter conditions;
- Full IMO compliant ARPA version allowing automatic tracking up to 120 targets;
- AIS up to 2000 targets (200 activated + 1800 sleeping);
- 2 VRM, 2 EBL;
- Designed to allow very easy installation and inspection for maintenance purposes;
- Easy operation in combination with all devices available (joystick, trackball, keyboard);
- Performance monitor included (for type approved version).



LEONARDO

LD 2010 RK / LD 2310 RK

LD 2025 RK / LD 2325 RK

GEM elettronica is introducing a new radar X-Band kit based on Leonardo proven technology with the aim to ensure maximum flexibility in bridge design and in general for customer requirements best satisfaction.

AU11-04N / AU11-06N / AU11-07N / AU11-09N



SU70-14E
SU70-25E



MLD-23xx

OPTIONAL



RBX-700



TST-851

Ideal for:

Cargo


Tanker

Merchant Ships


Supply Vessel

Cruise Boats

LD 2010 RK / LD 2310 RK

ANTENNAS AND ROTATING UNIT	X-Band 3 cm.		
			
Length	4 feet	6 feet	7.5 feet
Type	Slotted waveguide, horizontally polarized		
Horizontal beamwidth to -3dB	≤ 1.8°	≤ 1.2°	≤ 1.1°
Vertical beamwidth to -3dB	~ 22°	~ 22°	~ 22°
Sidelobes within 10°	-26dB	-26dB	-25dB
Sidelobes outside 10°	-30dB	-30dB	-30dB
Gain	≥ 27dBi	≥ 29dBi	≥ 30dBi
Rotation speed	22 rpm		
Tolerable relative wind speed	100 knots		

LD 2025 RK / LD 2325 RK

ANTENNAS AND ROTATING UNIT	X-Band 3 cm.		
			
Length	6 feet	7.5 feet	9 feet
Type	Slotted waveguide, horizontally polarized		
Horizontal beamwidth to -3dB	≤ 1.2°	≤ 1.1°	≤ 0,85°
Vertical beamwidth to -3dB	~ 22°	~ 22°	~ 22°
Sidelobes within 10°	-26dB	-25dB	-24dB
Sidelobes outside 10°	-30dB	-30dB	-30dB
Gain	≥ 29dBi	≥ 30dBi	≥ 31dBi
Rotation speed	22 rpm		
Tolerable relative wind speed	100 knots		

POWER REQUIREMENTS

Enclosure	Waterproofing IPX5
Input Voltage	115/220 Vac
Power absorption	≤ 100 W

POWER REQUIREMENTS

Enclosure	Waterproofing IPX5
Input Voltage	115/220 Vac
Power absorption	≤ 200 W

TRANSMITTER	X-Band, l=3 cm.
Magnetron peak power (nominal)	12 kW and 25 kW
Location of transceiver	Upmast
Frequency	9410 MHz
Duplexer	Ferrite circulator, solid state limiter diode
Dynamic Range	≥100 dB
Minimum Range	Better than 15 mt on 10 sq.m. target with short pulse
Discrimination	Better than 25 mt on 10 sq.m. target with short pulse

Range Scale in Nautical Miles **12 kW and 25 kW**

Pulse width ↓	0.0625	0.125	0.25	0.5	0.75	1.5	3	6	12	24	48	64	72	96	P.R.F. (Hz)
80 ns	S	S	S	S	S	S									3200
300 ns					M	M	M	M							1600
600 ns							L	L	L	L	L				800
1200 ns									XL	XL	XL	XL	XL	XL	500

S = Short
M = Medium
L = Long
EL = Extra Long

Receiver type	Solid state logarithmic
Front-end module	Microwave integrated circuit
Intermediate Frequency (I.F.)	60 MHz
I.F. bandwidth	20 MHz with short and medium pulses 4 MHz with long and extralong pulses (with ± 10% tolerance)
Noise figure (overall)	< 3.5 dB

ENVIRONMENTAL PERFORMANCE

	Display	Scanner
High temperature	+55° C	+70° C
Low temperature	-15° C	-25° C
Humidity	Up to 95% at +35° C	

DISPLAY UNIT

Type	LCD, Super TFT Technology, high resolution, color.												
Display size (diagonal)	20" with resolution from to 1280 x 1024 pixels 23" with resolution from to 1600 x 1200 pixels												
Range scale (n. miles)	0.065	0.125	0.25	0.5	0.75	1.5	3	6	12	24	48	72	96
Ring spacing (n. miles)	0.031	0.0625	0.125	0.25	0.125	0.25	0.5	1	2	4	8	12	16
Range discrimination	Better than ± 25 meters, $\sigma = 10$ m2, short pulse												
Range accuracy	± 6 meters or less than 0.8% of the scale in use, whichever is greater												
Plot intervals	15 sec. • 30 sec. • 1 min. • 3 min. • 6 min.												
Azimuth discrimination	0.1°												
Bearing accuracy	$\pm 0.5^\circ$												
Keyboard	embedded keyboard												
ARPA	capacity of manual/automatic acquisition and automatic tracking of 120 targets												
AIS	up to 2000 targets (sleeping + activated) 200 activated												

INTERFACES

Input signals

Gyrocompass: Standard NMEA 0183 with sentence type HDT,XXX.,T

Radionavigation System: Standard NMEA 0183 with sentence type RMC, GLL.

AIS: Standard NMEA 0183 with sentence type VDM

Log: Contact closure with 100/200/400 pulses/n.m..

ECDIS (Output): Standard NMEA 0183 with sentence type TTM

Input/Output signals (optional)

• RGB signal RS-343 for high resolution auxiliary monitor (CRT, LCD, etc.)

for radar video presentation (output)

• 4 digital outputs, open collector for general purpose device control

(output); (e.g. to designate an external FCS)

• Bidirectional RS422 serial lines (one of which RS232 configurable) to output target data

• Serial NMEA for direction finder (input)

Chart Overlay (optional)

Gyrocompass (optional):

• Synchro threewire 90V, format 1X and 36X with reference 115 Vac 60 Hz and/or 400 Hz (same input); absorption as S/D module

• 12 bit positive TTL logic, binary code, LSB=0.0879, valid data line, TTL logic, positive polarity

• Stepper

Log (optional):

Synchro threewire 90V, with 30/40/72/96 knots/rev., with internal hardware selection and reference 115V, 60Hz and 400Hz

MODEL RADAR SYSTEMS

23" Display 12 kW RTX

LD-2310 RK/4/AC	Array 4 ft	AU11-04N
LD-2310 RK/6/AC	Array 6 ft	AU11-06N
LD-2310 RK/7/AC	Array 7.5 ft	AU11-07N

23" Display 25 kW RTX

LD-2325 RK/6/AC	Array 6 ft	AU11-06N
LD-2325 RK/7/AC	Array 7.5 ft	AU11-07N
LD-2325 RK/9/AC	Array 9 ft	AU11-09N
LD-2325 RK/.../AC-DW (Downmast version)		
LD-2325 RK/.../AC-HSC (High Speed Craft version)		
LD-2325 RK/.../AC-HSC/DW (HSC Downmast version)		

20" Display 12 kW RTX

LD-2010 RK/4/AC	Array 4 ft	AU11-04N
LD-2010 RK/6/AC	Array 6 ft	AU11-06N
LD-2010 RK/7/AC	Array 7.5 ft	AU11-07N

20" Display 25 kW RTX

LD-2025 RK/6/AC	Array 6 ft	AU11-06N
LD-2025 RK/7/AC	Array 7.5 ft	AU11-07N
LD-2025 RK/9/AC	Array 9 ft	AU11-09N
LD-2025 RK/.../AC-DW (Downmast version)		
LD-2025 RK/.../AC-HSC (High Speed Craft version)		
LD-2025 RK/.../AC-HSC/DW (HSC Downmast version)		

All Marine radar models are complete of:

- Full ARPA 150 targets, AIS 2000 targets (sensor required)
- C-MAP CARD reader track output for ECDIS
- Logarithmic receiver
- Performance monitor
- Power supply 115-230 Vac. 50-60 Hz
- Installation cable 30 mt, kit of ancillaries installation and operator manual

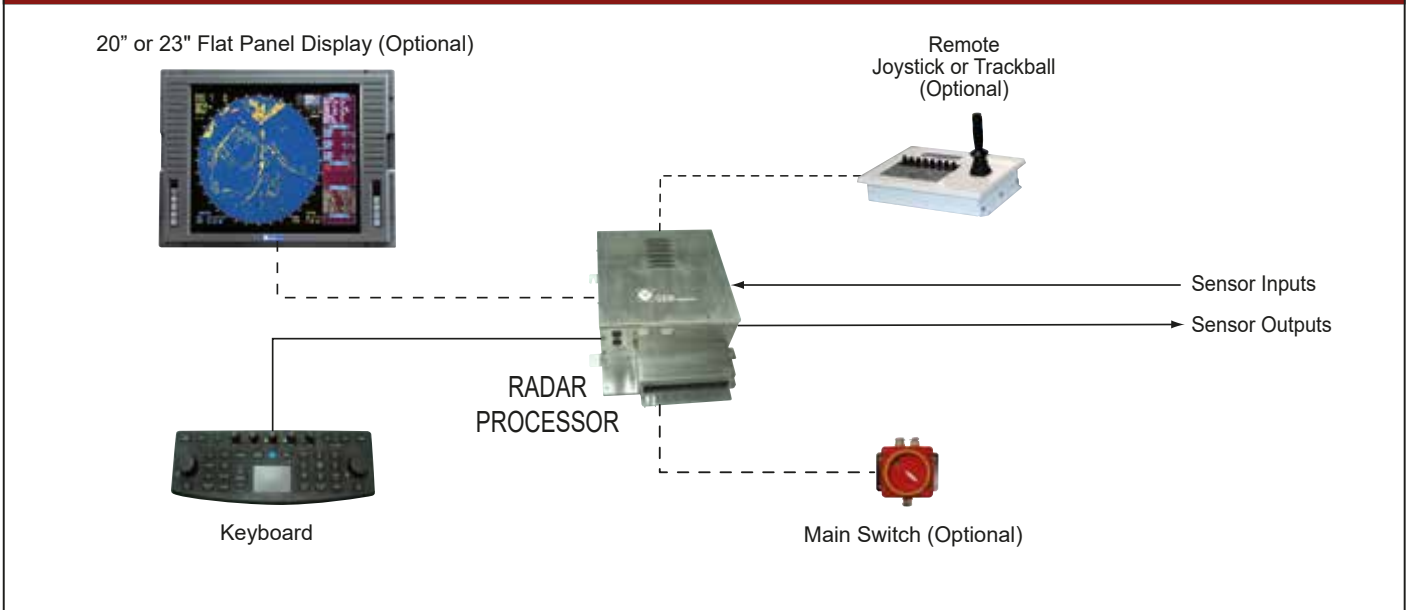
EQUIPMENT

Standard	Upmast scanner, 30 meters interconnecting cable, operation and installation manual, mounting hardware, consumable spares
----------	--

OPTIONAL

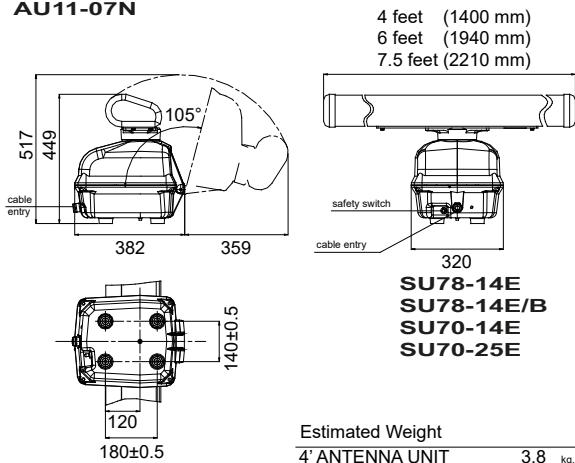
- Display indicator
- Remote Joystick or Trackball
- GB 20-10 Gyro interface unit
- RU 40-24 Rectifier unit
- RUGB 70-24 Gyro interface unit
- NMEA Cable
- PM 30-01 Performance monitor
- External audio alarm

BLOCK DIAGRAM

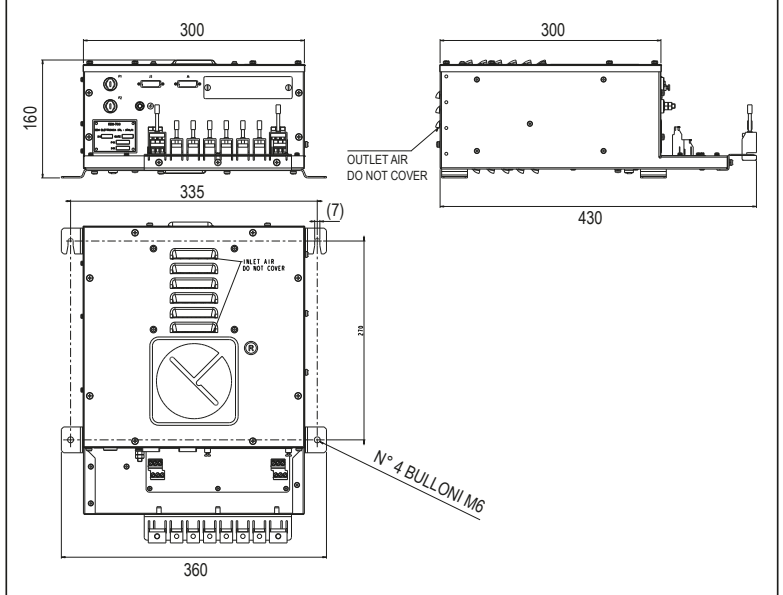


ANTENNA AND SCANNER UNIT

AU11-04N/AU11-04NA
AU11-06N
AU11-07N



RADAR PROCESSOR



Surveillance & Security

Guidance, Navigation & Positioning

Military & Defence

Marine Electronics

This brochure should not be considered a contractual offer to sell. The specifications given herein may be changed by the manufacturer, GEM elettronica S.r.l., without notice.

