Installation

The components of the Intellian i2 have been designed to be modular so that it is suitable for simple installation on all types of vessels.

System Components

Antenna Unit

The antenna of Intellian i2 is comprised with the following components for optimum search and reception of the satellite signal.

- Mechanical Unit – manipulates the antenna to receive an optimal satellite signal regardless of the movement of the vessel.
- Control Unit – controls mechanical operation of the antenna.
- RF Unit – transmits an optimum satellite signal to the receiver.
- Radome – protects the antenna from severe marine environmenta

Figure 02 : Radome

Antenna Control Unit (ACU)

The Antenna Control Unit (ACU) provides the power to the antenna and controls various settings of the antenna. The digital VFD (Vacuum Fluorescent Display) allows for easy operation of the ACU, even in the dark.

The functions of the ACU are as follows:

- Provides power to the antenna unit
- Monitors the antenna status
- Changes the target satellite
- Set up the user environment
- Set the current GPS information
- Set satellite information
- Perform self-diagnosis of the antenna
- Set up the interface with a PC

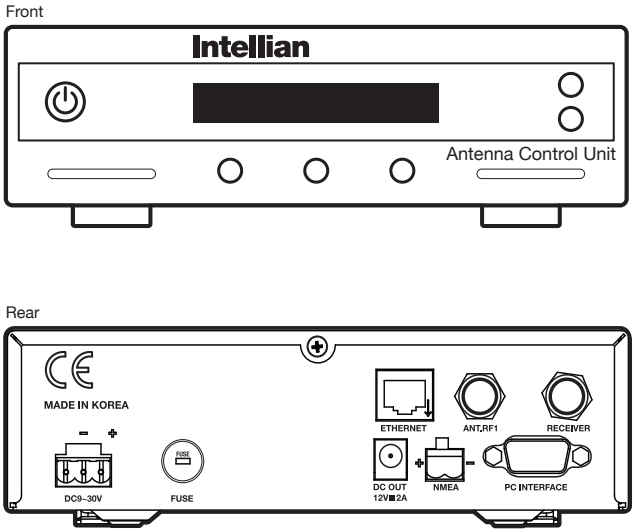
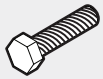


Figure 03 : Front & Rear of ACU

Installation Kit

Contains the items required for securing the antenna unit and ACU to the vessel.

Antenna				
Item				
	Hex.Bolt	Flat Washer	Spring Washer	Hex. Nut
Qty	5	5	5	5

ACU		
Item		
	Self-Tapping Screw	Machine Screw
Qty	5	5
Size	(M4 X 16L)	(M3 X 8L)

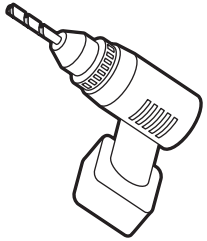
Figure 04 : Installation Bolt Kit

Other Components

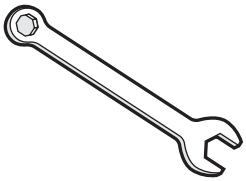
No	Components	Size	Qty
1	ACU Bracket	-	2
2	RG6(Antenna – ACU RF Cable)	15m	1
3	RG6(ACU – IRD Cable)	3m	1
4	Power Cable	10m	1
5	PC Serial Cable	1.8m	1
6	NMEA Connector	1.5m	1
7	Power Connector	AK950-2	1
8	Hex Bolt	M6x35L	5
		M6x50L	5
	Tapping Screw	ø4x16L	5
		ø3x8L	5
	Flat Washer	M6	10
	Spring Washer	M6	5
	Nut	M6	5
9	Aptus CD	-	1
10	User Manual	-	1
11	Mounting Template		1
12	Quick Installation Guide	-	1

Figure 05 : List of the Supplied Parts

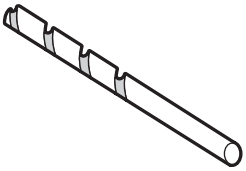
Tools Required for Installation



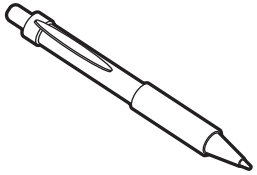
Power Drill



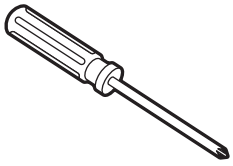
11 mm Spanner



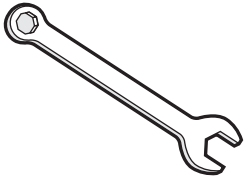
8 mm Drill Bit



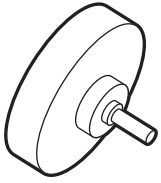
Pencil



Cross-Head
Screwdriver



10 mm Spanner



Ø50 mm
Hole Saw

Figure 06 : Required Tools for Installation

Planning the Installation

Selection of Installation Site

Install the antenna in accordance with the following procedures to ensure maximum performance of the antenna.

The antenna should be installed in a place where it has an all-round clear view of the horizon. Please be sure there are no obstacles within 15 degrees above the antenna. Any obstacles can prevent the antenna from tracking the satellite's signal (Refer to the drawing on the right).

Do not install the antenna nearby the radar, especially if their on the same plane, as their energy levels may overload the antenna's front-end circuits. It is recommended to position the antenna at least 4 feet (1.2m) above or below the level of the radar and a minimum of 15 feet (4.6m) away from any high power short wave radars.

The mounting platform should be rigid enough and not subjected to excessive vibration. The movement of the antenna can be minimized by installing it at the center of the vessel. For optimal performance of the antenna, it is not recommended to install it at any corner of the vessel, where the movement of the vessel is the greatest. Install the bottom of the antenna parallel to the surface of the sea and fix it tightly to the structure of the vessel.

When setting the antenna down, be careful not to damage the RF connector. Striking the connectors on the bottom directly will damage the connector.

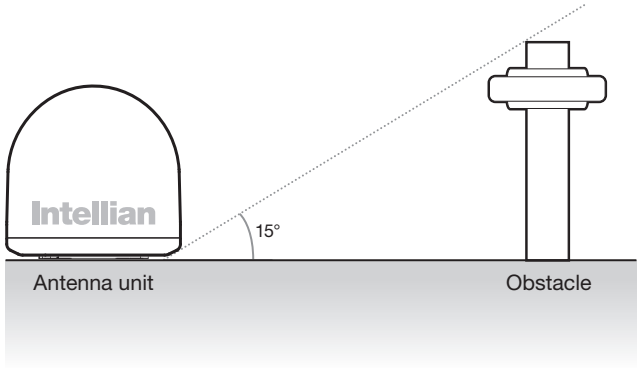


Figure 07 : Elevation Limit of Obstacles

Cables

Before installing the system's cables, consider the following points.

- All cables need to be well clamped and protected from physical damage and exposure to heat and humidity.
- A cable with an acute bend is not allowed.
- Where a cable passes through an exposed bulkhead or deckhead, a watertight gland or swan neck tube should be used.

Power Requirements

You need to follow the power requirements to avoid damaging the system.

- Intellian i2 has been designed to work on a boat's power supply rated at 12V / 24V DC (acceptable range: 9~30 V DC).
- If your IRD(s) and television(s) require a 110V/240V AC power supply, you will need to install a suitable DC to AC converter to operate the unit(s) from your boat's DC power supply.

Extending the cables

The cables that have been supplied with your Intellian system should be of adequate length to complete the installation on most boats.

Power Cable

This cable is supplied at a length of 10m.

RF Cable

This cable is supplied at a length of 15m. If a longer length is required you should replace this cable with an extended RF cable supplied by Intellian Technologies.

Note: Exceeding the indicated cable lengths will result in reduced performance of your system.

Installation and Mounting of the Antenna

The method of installation and mounting of antenna may vary due to vessel design but the following procedures are applicable in most situations, and will result in a secure and effective installation.

Confirmation of Size and Installation of Power Tower

- Confirm the height and diameter of the bottom surface of the antenna before installing it.
- The space must be sufficient for installing the antenna unit considering the height and diameter of the antenna.
- The height and the diameter of the bottom surface of the antenna are as shown in the following drawing. If possible, install the antenna using a power tower.

Note: Before installing the antenna, open the radome and remove the shipping constraints from the antenna interior. Reinstall the radome before operating the system. The system will not perform properly if the radome is open.

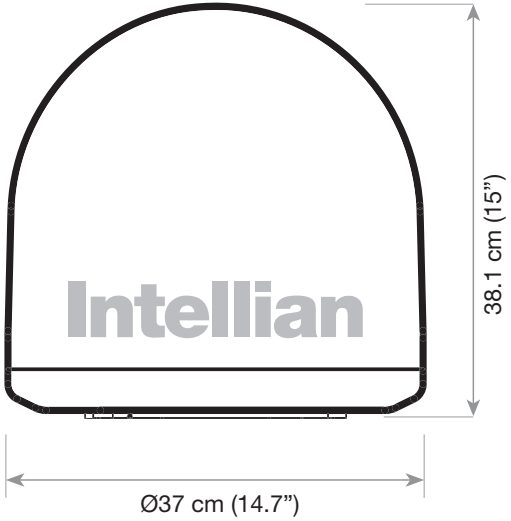


Figure 08 : Radome Dimension of i2

Marking of the Antenna's Parking Position

Referring to the Mounting template, mark where antenna is to be mounted onboard the ship (it must be a flat surface) or on a separate power tower by drawing a square of 14.4cm (5.7")

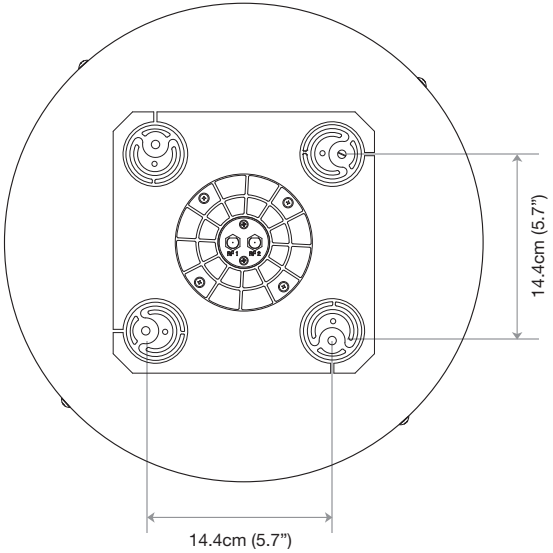


Figure 09 : Intellian i2

Note: If a power tower is not used to mount the antenna, separate cable shocks and waterproofing measures must be taken to protect the RF connector from being exposed to sea water and external shocks. An exposed cable may cause electric shock and cause serious damage to the equipment.

Securing Holes for Bolts and Cable Ways

Make 4 bolt holes of 8mm diameter, one at each corner of a rectangle drawn as below, and make a circular hole of 50mm diameter at the center of the rectangle through which the cable will run.

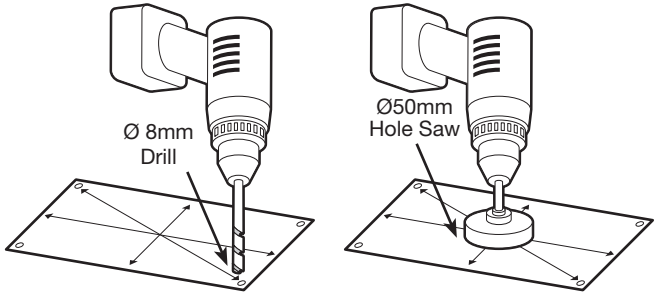


Figure 10 : Drilling Instruction

Connection of the Cable

Remove the rubber cap from RF connector. Connect the RF cable to the RF connector under the base plate through the access hole using an 11mm spanner. Be careful not to over tighten, as you may damage the connector.

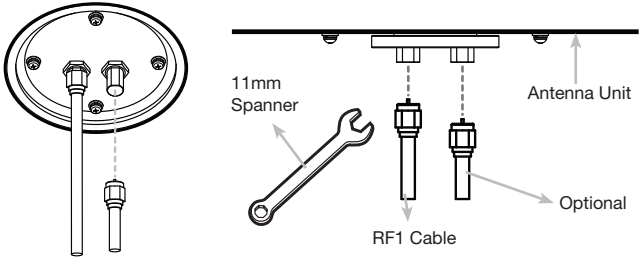


Figure 11 : Connectors on Bottom of Antenna

Note: Do not use excessive force when using the spanner, this will damage the threads. Be careful that the connectors do not contact the mounting surface of the antenna, this may cause critical malfunction and serious damage to the equipment.

Mounting the Antenna

Fix the antenna to the holes made before as shown in the drawing below by using the hex head bolts (M6 X 35L), M6 spring washer, M6 flat washer and M6 Nut supplied.

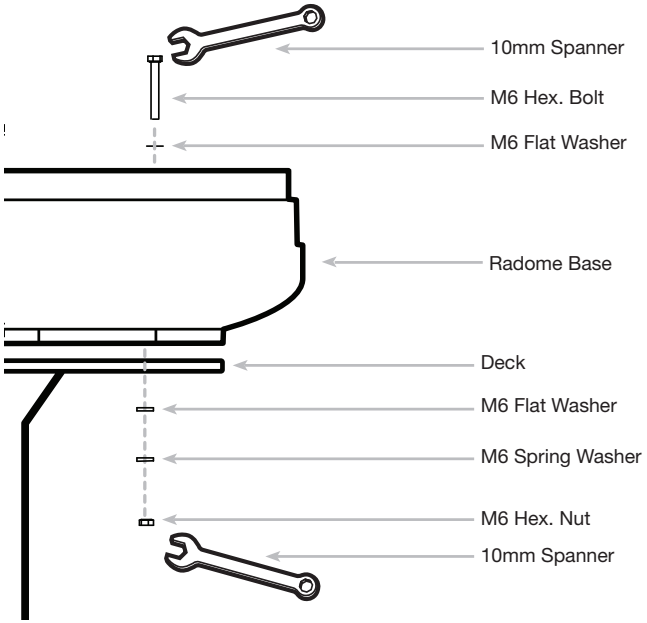


Figure 12 : Mounting the Antenna

Installing the ACU

ACU Dimensions

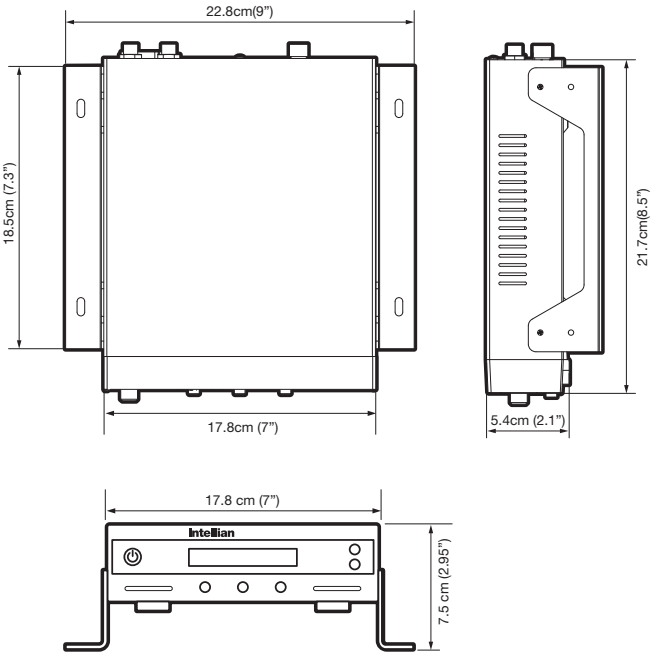


Figure 13 : Dimension of ACU