
Installation

The components of the Intellian i3/i3L/i4/i4P are designed as module system so that it is suitable for simple installation on all types of vessels.

System Components

Antenna Unit

The antenna of Intellian i3/i3L/i4/i4P is comprised of the following components for optimum search and receiving satellite signal.

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



Figure 02 : Radome

Intellian Satellite TV Antenna Systems

Antenna Control Unit (ACU)

The Antenna Control Unit (ACU) provides the power to the antenna and controls the 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:

- Controls the antenna system
- 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
- Move antenna manually
- Perform self-diagnosis of the antenna
- Set up the interface with a PC

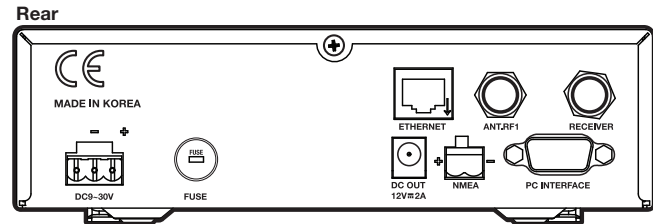
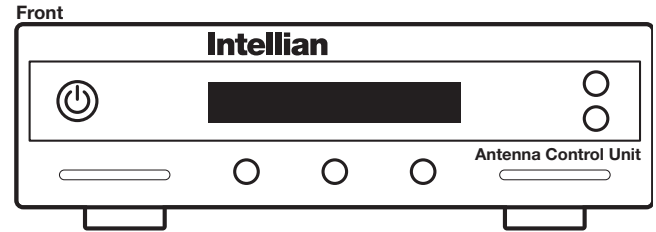


Figure 03 : Front & Rear of ACU

Installation Kit

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








Antenna					
Item					
	Hex.Bolt	Hex.Head Wrench Bolt	Flat Washer	Spring Washer	Hex. Nut
Qty	5	5	5	5	5
ACU					
Item					
	Self-Tapping Screw		Machine Screw		
Qty	5		5		
Size	(M4 X 16L)		(M3 X 8L)		

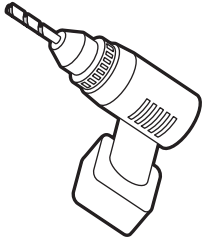
Figure 04 : Installation Bolt Kit

Other Components

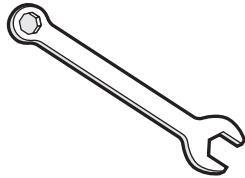
No	Components	Size	Qty
1	ACU Table Mounting Bracket	-	2EA
2	RF Cable (ACU to IRD)	49ft (15m)	1EA
3	RF Cable (ACU to IRD)	10ft (3m)	1EA
4	DC Power Cable	33ft (10m)	1EA
5	PC Serial Cable	6ft (1.8m)	1EA
6	NMEA Connector	AK950-2	1EA
7	Power Connector	AK950-3	1EA
8	Hex Bolt	M8x35L	5EA
9	Tapping Screw	ø4x16L ø3x8L	5EA 5EA
10	Flat Washer	M8	5EA
11	Spring Washer	M8	5EA
12	Aptus CD	-	1EA
13	User Manual	-	1EA
14	Mounting Template	i3/i3L i4/ i4P	1EA
15	Quick Installation Guide	-	1EA

Figure 05 : List of the Supplied Parts

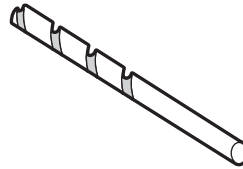
Tools Required for Installation



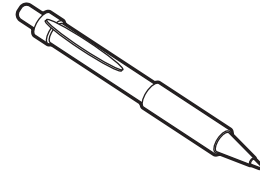
Power Drill



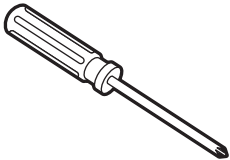
11 mm Spanner



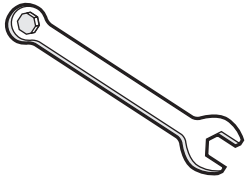
10 mm Drill Bit



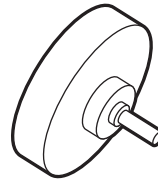
Pencil



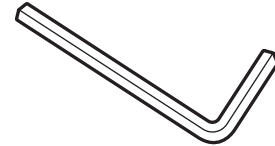
**Cross-Head
Screwdriver**



13 mm Spanner



**Ø80 mm
Hole Saw**



**5 mm
Allen/Hex key**

Figure 06 : Required Tools for Installation

Planning the Installation

Antenna Unit

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-around 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 signal (Refer to the drawing on the right).

Do not install the antenna near by the radar especially on the same plane as their energy levels may overload the antenna 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 minimum of 15 feet (6m) away from the 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 at the center of the vessel. For optimal performance of the antenna, it is not recommended to install 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 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.

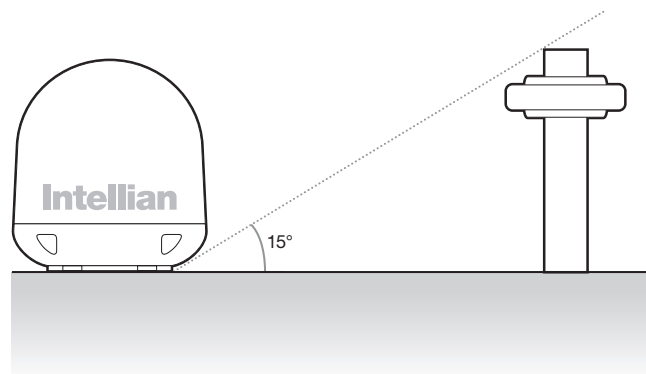


Figure 07 : Elevation Limit of Obstacles

Intellian Satellite TV Antenna Systems

Cables

Before installing the system cables, consider the following points.

- All cables need to be well clamped and protected from physical damage and exposure to heat and humidity.
- Cables with severe bends are not allowed.
- Where a cable passes through an exposed bulkhead or deckhead, a watertight grommet or swan neck tube should be used.

Power Requirements

Follow the power requirements to avoid damage to the system.

The Intellian i3/i3L/i4/i4P has been designed to work on a boat's power supply rated from 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.

RF Cable

This cable is supplied at a length of 49ft (15m). If a longer length is required you should replace this cable with an extended RF cable supplied by Intellian Technologies.

Extending the Cables

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

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

Installation and Mounting of 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 Prior to Installation

- Check the height and diameter of the bottom surface of the antenna before installing.
- 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.

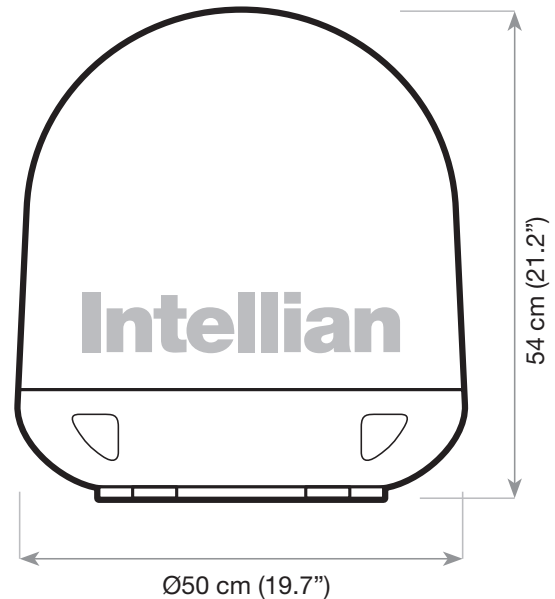


Figure 08 : Radome Dimension of i4 / i4P

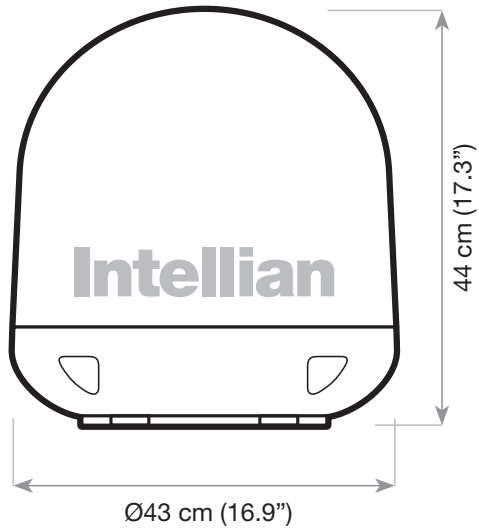


Figure 09 : Radome Dimension of i3 / i3L

Mark of the Antenna Mounting Position

Referring to the mounting template, mark where antenna will be mounted on board (it must be a flat surface) or on a separate power tower.

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

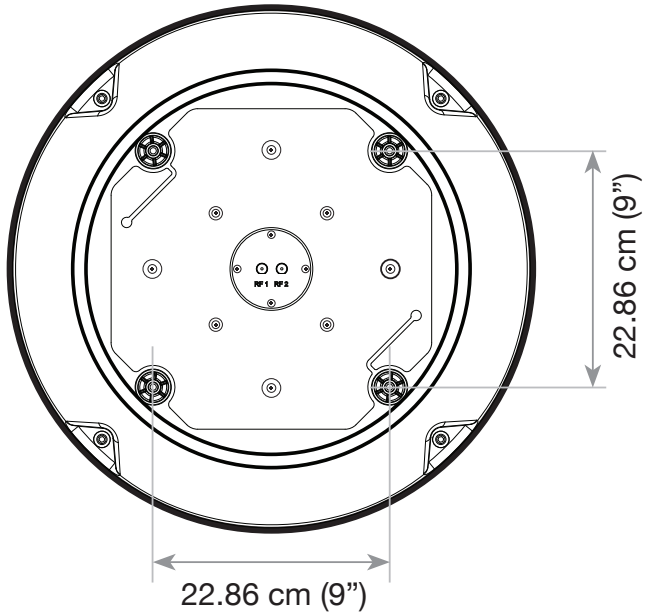


Figure 10 : Mounting Hole Position of i4 / i4P

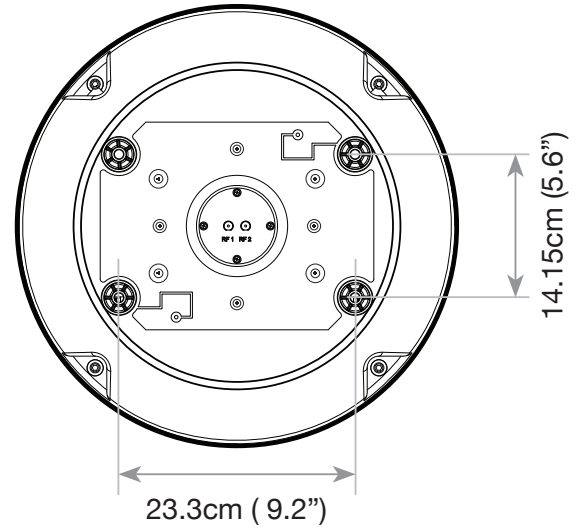


Figure 11 : Mounting Hole Position of i3 / i3L

Securing Holes for Bolts and Cable Ways

Make 4 bolt holes of 10mm diameter, one at each corner of a rectangle drawn as below, and make a circular hole of 80mm diameter at the center of the rectangle through which the cable will run.

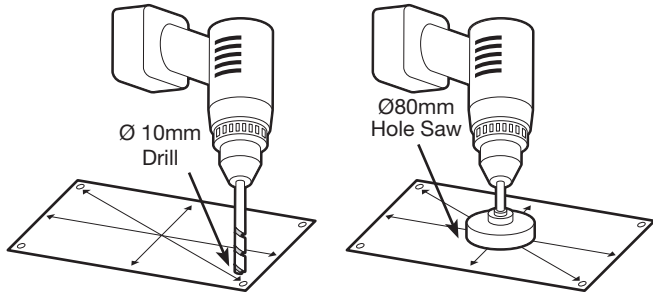


Figure 12 : Drilling Instruction

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.

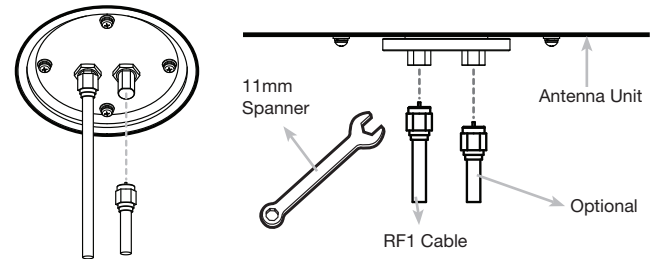


Figure 13 : Connectors on Bottom of Antenna

Note: Do not tighten excessively when using the spanner, this will damage the threads. Be careful that the connectors do not touch the mounting surface of the antenna, this might cause a critical malfunction and serious damage to the equipment.

Mounting the Antenna

Attach the antenna by using the hex head bolts (M8X35L), M8 spring washers, and M8 flat washers supplied.

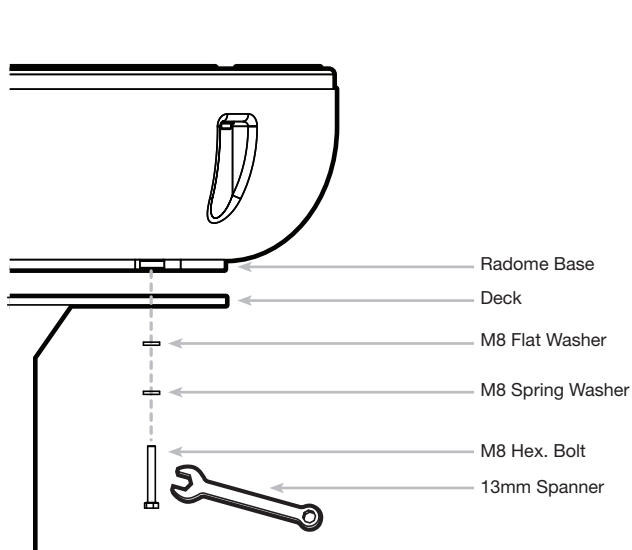


Figure 14 : Mounting the Antenna

Installing the ACU

ACU Dimensions

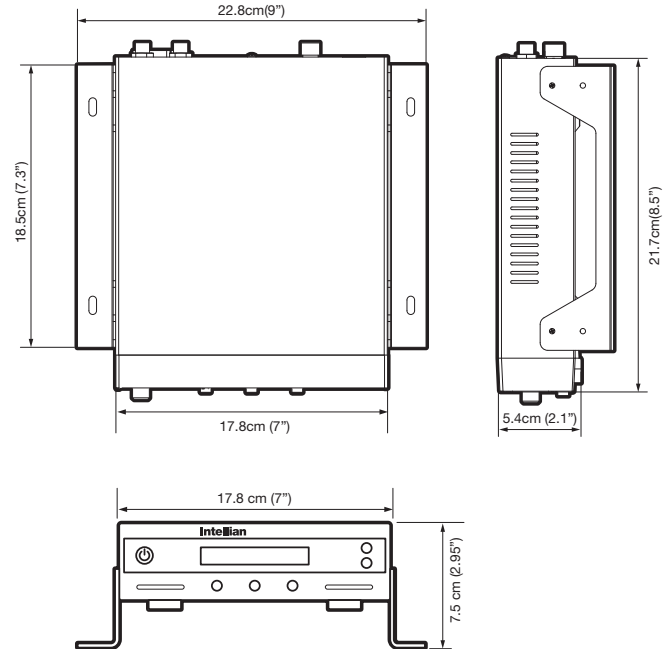


Figure 15 : Dimension of ACU