

# Intellian® v100GX

Design for  
the Future



# Intellian® v100GX

1 METER KU-BAND TO KA-BAND  
CONVERTIBLE MARITIME STABILIZED  
COMMUNICATION ANTENNA SYSTEM

The v100GX is a 1 meter Ku-band to Ka-band convertible maritime stabilized antenna, a ready-to-use system for the super-fast, Global Xpress™(GX) Ka-band broadband service from Inmarsat.

The v100GX offers a simple, affordable, plug and play conversion kit to enable a smooth upgrade path from Ku-band to the GX service in as little as 20 minutes, without requiring a factory trained technician. With the improved Ku-band RF performance, from using a precision carbon fiber reflector, the Ka-band RF performance of the v100GX is also optimized for the GX service at the same time.



## DESIGN FOR THE FUTURE

### ALL NEW ANTENNA CONTROL UNIT (ACU)



The v100GX comes with the next generation ACU from Intellian. This new rack mount design incorporates all the latest features and software. A WiFi access point in the ACU enables wireless connection to the antenna system making onboard service much easier, therefore reducing time and improving performance.

The ACU also has a built in Global Satellite library as default and can be updated as the need may arise. When linked to the Aptus program the satellites are shown visually on the system graphic, an easy way to check that the correct satellite is selected.

### FREQUENCY TUNED RADOME



To ensure efficient operations for both Ku-band VSAT and Ka-band Inmarsat Global Xpress™ systems, the signal loss of the radome itself has been minimized and the performance maximized with an optimized radome design that enhances both the Ka- and Ku-band system performance.

The new Radome is also designed to match conventional domes, a great benefit on installations where great aesthetics are important. In addition, the v100GX supports low elevation angle (-20°) capability to guarantee reliable connection at extremely high latitude without any loss of performance.

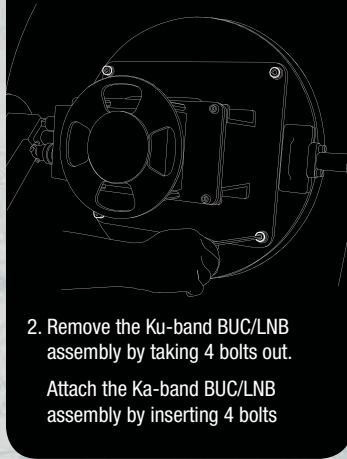
### PRECISION DUAL BAND CARBON FIBER REFLECTOR



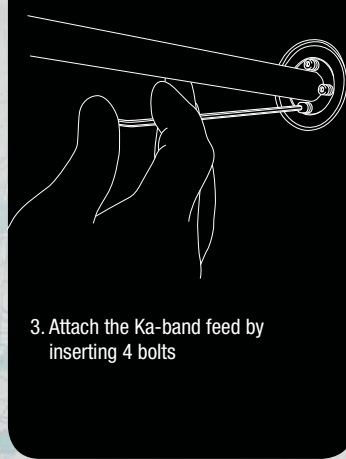
The v100GX is designed and engineered to operate on Ku and Ka-bands while maximizing the RF performance on both bands. The v100GX's high-gain, precision carbon fiber reflector and tuned radome ensure the best service quality available when configured for Ku- or Ka-band operation. The system will be supplied with a Ku-band feed chain as standard.



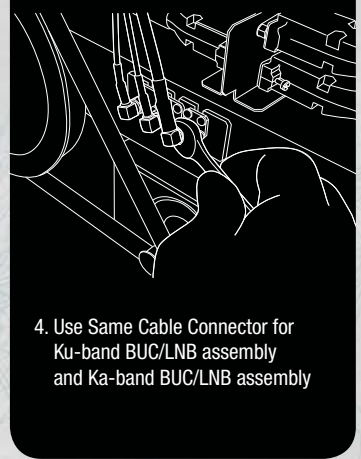
1. Remove the Ku-band feed by removing 4 bolts



2. Remove the Ku-band BUC/LNB assembly by taking 4 bolts out.  
Attach the Ka-band BUC/LNB assembly by inserting 4 bolts



3. Attach the Ka-band feed by inserting 4 bolts



4. Use Same Cable Connector for Ku-band BUC/LNB assembly and Ka-band BUC/LNB assembly

## 4 STEP CONVERSION

A simple conversion process enables the v100GX to be converted to operate on the Ka-band.

The v100GX can be easily and quickly converted from a Ku-band system to a Ka-band GX system with the mounting hardware supplied in the Conversion Kit.

To make this a simple process the RF components are all mounted on a single chassis with an integrated RF module consisting of the BUC and LNB, only four bolts need to be removed to lower the whole module out through the hatch, no need to remove the radome.

The new BUC & LNB chassis assembly is attached to the rear side of the reflector with no need to balance the system after conversion.

The Ku-band feed is easily and swiftly replaced with the Ka-band feed and is included in the GX Conversion kit. Once the ACU is replaced, and power is supplied, the system is immediately ready for operation on the GX service.

After conversion all the Ku-band components can be stored in the conversion kit case.

## INTELLIAN GLOBAL PLL LNB



The v100GX is equipped with Intellian's patent pending Global PLL LNB as standard. The Global PLL LNB is the world's first Ku-band LNB module capable of receiving a full range of operating frequencies from any VSAT satellite around the globe.

The PLL LNB incorporates user programmable support of an unlimited number of LO (Local Oscillator) frequencies. This uniquely innovative capability of remotely changing the frequencies of the LNB makes the v100GX by far the only system that is ready for Global Ku-band VSAT service to date.

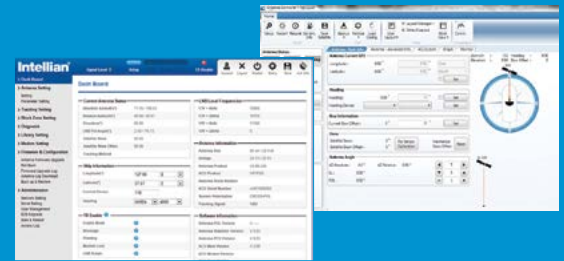
## GLOBAL DEALERS AND DISTRIBUTORS



Intellian maintains a worldwide network of over 500 dealers and distributors. You will find highly trained sales consultants, service and customer support representatives well suited to meet your needs. Intellian dealers can be found in North and South America, Europe, Africa, the Middle East and in the Asia/Pacific Region.

For up-to-date contact information, please visit [www.intelliantech.com](http://www.intelliantech.com)

## APTUS®



The Aptus PC software is compatible with all Intellian VSAT antennas and can be connected via the onboard network or direct to the ACU by serial or USB, through a simple one-click installation. Straightforward IP connection and set-up, coupled with antenna status reporting helps increase the performance of the antenna as well as debug the system.

The software displays a simple to understand graphical dashboard that allows logging, recording and fine-tuning of the antenna for optimum performance. Through logging the antenna's parameters, the user and integrator can monitor the system and see performance data in real-time.

Aptus features a dashboard with three main views to monitor and control the antenna. The views provide varying levels of information, such as graphical antenna position, set-up data including sensor inputs, satellite information including tracking frequency and LNB setting, graphs illustrating the signal, heading and elevation angles, and a monitor listing all data that is being received by the ACU.

When installing the Intellian v100GX antenna, Aptus can also help with the initial set-up and automatically sets the appropriate Bow, Cross Level and Elevation offsets, saving time during the installation.

## TECHNICAL SPECIFICATION

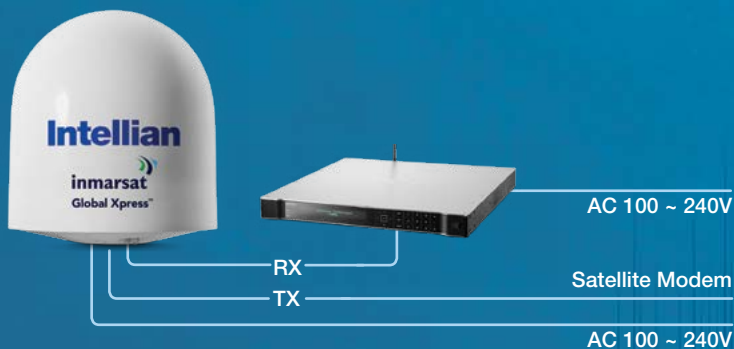
### ADE Specification

Radome (W x H)	133 cm x 149 cm (52" x 59")
Dish Diameter	103 cm (41")
Antenna Weight	128kg (282 lbs)
Platform	Azimuth, Elevation, Cross-level
Azimuth Range	Unlimited
Elevation Range	-20 ° to +115°
Cross-level Range	Up to ±37°
RX Frequency	10.95~12.75GHz Ku-band
RX Gain	39.8 dBi @ mid band
TX Frequency	13.75~14.5GHz Ku-band
TX Gain	41.3 dBi @ mid band
Cross-pol Isolation	Minimum 35 dB
G/T	> 18.3 dB/K
Polarization	Cross-pol and Co-pol
Power Consumption	100 ~ 240V AC, 50/60Hz, 4A

### BDE Specification

Dimensions (W x D x H)	43.1 cm x 38.1 cm x 4.4 cm (17" x 15" x 1.7")
Weight	3.5kg (7.7 lbs)
Ship's Gyrocompass Interface	NMEA 2000 / NMEA 0183
GPS Interface	NMEA In / NMEA Out
Serial port	57600bps 8, N, 1, RS-232C
Modem Interface	Ethernet port / RS-232C / I/O ports
Ethernet port	RJ45, TCP/ IP connection
RF Interface	Antenna RX: N-Type, Modem RX: F-Type
Power Consumption	100 ~ 240V AC, 50/60Hz, 1A

## SYSTEM DIAGRAM



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All Intellian VSAT systems are covered by a 3-year limited warranty. Please see Intellian's warranty policy for more details.

# REDEFINING CONNECTIVITY

Intellian is a company with better ideas. Built upon innovation and a commitment to design excellence, Intellian has consistently led with breakthrough technologies that provide the marine industry with superior performance and exceptional results.

Intellian is the global leader in maritime satellite communication antenna systems. Intellian offers a full line of VSAT communications and satellite TVRO antennas for recreational boats and ocean vessels in the commercial, oil & gas markets, and the military.

Founded in 2004, and recognized as one of the fastest growing companies in the industry, Intellian exports its products to six continents and over 46 countries and has established 500 contracted dealers and a support network worldwide. Intellian is headquartered in Seoul, South Korea, and recently opened its new Maritime Technical Center opened in Busan.

Intellian has US operations in Irvine, California, and Seattle, Washington, as well as European offices in Rotterdam, Netherlands and Southampton, UK.



# Intellian®

ISO 9001 / 14001 Certified  
[www.intelliantech.com](http://www.intelliantech.com)

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