Intellian®

v60 Installation and Operation User Guide

Marine Satellite Communication Antenna System

Serial number of the product

This serial number will be required for the all troubleshooting or service inquiries.

Intellian[®]

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CERTIFICATIONS	6
INTRODUCTION	
Introduction to Intellian v60	9
Features of Intellian v60	10
System Configurations	11
INSTALLING THE ANTENNA	
System Package	13
Planning the Installation	18
Antenna Installation	21
INSTALLING THE ACU	
Mounting the ACU	33
Ship Gyro Connection	35
OPERATING THE ACU	
Introduction	39
Normal Mode	40
Setup Mode	43
Installation Settings	44
Antenna Settings	46
Satellite Settings	57
System Settings	64
PC CONTROLLER SOFTWARE	
Introduction	73
PC to ACU Communication Setup	74
Main Menu	76
Controller Menus	78
REMOTE WEB ACCESS	
Introduction	85
Main Page	86
Antenna Settings	88
Antenna / ACU Firmware Upgrade	100
Ethernet to Serial Settings	104
WARRANTY	112
TECHNICAL SPECIFICATION	113

CERTIFICATIONS

Intellian

R&TTE Declaration of Conformity (DoC)

We, Intellian Technologies, Inc. located at 2F Dongik Bldg., 98 Nonhyun-dong, Kangnam-gu, Seoul 135-080, Korea declare under our sole responsibility that the product(s) described in the below to which this declaration relates is in conformity with the essential requirements and other relevant requirements of the Radio and Telecommunications Terminal Equipment(R&TTE) Directive (1999/5/EC).

Product Information:

Product Name(s):	Intellian v60, 60cm Ku-band Maritime VSAT Antenna System Intellian v110, 105cm Ku-band Maritime VSAT Antenna System		
	Intellian v130, 125cm Ku-band Maritime VSAT Antenna System		
Model Number(s):	V1-60-XXX, V1-110-XXX, V1-130-XXX		

To provide the presumption of conformity in accordance to Annex III(encompassing Annex II) of Directive 1999/5/EC; the following harmonized standards and normative documents are those to which the product's conformance is declared, and by specific reference to the essential requirements of Article 3 of the Directive 1999/5/EC.

1995/5/EC Article	Standard(s) Applied in Full	Date of Withdraw
SAFETY (Art 3.1.a)	IEC EN 60950-1: 2001 (1 st Edition)	Not Referenced
EMC (Art. 3.1.b)	IEC EN 60945: 2002 ETSI EN 301 489-1 V1.8.1: 2008	Not Referenced
SPECTRUM (Art. 3.2)	ETSI EN 301 428 V1.3.1: 2006-02 ETSI EN 302 340 V1.1.1: 2006-04	Not Referenced

Supplementary Information:

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Place and Date of issue:	Seoul, Korea on 20 Oct 2010

Authority: / Director, R&D

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Signature:

20 Oct, 2010

Date:

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Doc Number IT10-DC1020-01

Intellian

FCC Declaration of Conformity

Intellian Technologies, manufactures of stabilized maritime VSAT antenna systems for satellite communication at sea, supplies stabilized maritime VSAT antenna systems to the satellite communication service providers for their ESV (Earth Station on Vessels) networks.

FCC §25.222 defines the provisions for blanket licensing of ESV antennas operation in the Ku-band. It defines the antennas radiation, and each article regulates the followings;

§25.222 (a)(1)(i)(A):	Regulation for
§25.222 (a)(2)(i)(B):	Regulation for
§25.222 (a)(1)(i)(C):	Regulation for

egulation for Azimuth Direction & Co Polarization egulation for Other Direction & Co Polarization egulation for Cross Polarization

Intellian Technologies, Inc. declares that the below identified products comply with the threshold level as defined in \$25.222(a)(1)(i)(A):, and declares that the products are in accordance with all defined regulations from \$25.222(a)(1)(i)(B) to \$25.222(a)(1)(i)(C) at the below stated input power spectral density, with an N value of 1.

Product description	EIRP spectral density limit
Intellian v60, 60cm Ku-band maritime VSAT antenna system	-22.3 dBW/ 4KHz
Intellian v110, 105cm Ku-band maritime VSAT antenna system	-16.2 dBW/ 4KHz
Intellian v130, 125cm Ku-band maritime VSAT antenna system	-14.0 dBW/ 4KHz

Intellian Technologies, Inc. declares that the above antennas will maintain a pointing error of less than or equal to 0.2 degree under specified ship motion conditions in accordance with the requirements of \$25.222 (a)(1)(ii).

Intellian Technologies, Inc. declares that the above antennas will automatically cease the transmission within 100 mute command to the modem within 100 milliseconds if the target satellite and the axis of the main lobe of the ESV antenna exceeds 0.5 degree and will not resume until such angle is less than or equal to 0.2 degree in accordance with the requirements of §25.222 (a)(1)(iii)

Date:

Radiation pattern data is available upon request to verify the conformance.

Authority:

Steve Cha / Director, R&D

Signature:

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Doc Number IT10-DC0801-01

INTRODUCTION

Introduction to Intellian v60

Features of Intellian v60

System Configurations

Introduction to Intellian v60

The Intellian v60 is a 60-centimeter (23.6-inch) Ku-band, three-axis stabilized VSAT antenna system capable of receiving SCPC, MCPC, TDMA or Spread Spectrum transmissions. Designed for ocean vessels in the recreational, commercial or oil and gas market segments, as well as military vessels, the v60 offers "always on" high-quality broadband communications, in even the roughest weather and sea conditions.

The v60 provides seamless, uninterrupted broadband connectivity for worldwide on-demand communications, is compatible with a comprehensive list of service providers and ensures professional mariners and yacht owners reliable, unlimited connectivity at sea.

The v60 offers a wide minus 10-degrees to plus 100-degrees elevation range and unlimited azimuth, eliminating cable wrap and the lengthy loss of signal connection as the system unwinds. It is ideal for mission critical operations, such as surveillance or vessel monitoring, that require uninterrupted connectivity, or in Voice over Internet Protocol (VOIP) communication and information downloads where signal loss is unacceptable.

An open platform, the v60 is compatible with any modem and supports 4-, 6- and 8-Watt BUCs, providing owners the flexibility to choose the service and communications speeds that is right for their needs. The new antenna embraces Intellian's design philosophy that simplicity equals reliability.

The unit is designed to making it easier for owners, operators and installers to add new features when updating firmware, and even offers a "roll back" function that resets the firmware to a previous version. The v60 offers seamless remote monitoring and control and a power switch on the ACU's front panel for your convenience.

Features of Intellian v60

Enjoy always-on broadband connection at sea

Intellian v60 is the most modern communication system that offers a high-speed and always-on broadband connection at sea, where the atmospheric and environmental conditions are very harsh.

Best solution for all kinds of vessels

The v60 is the best solution for all kinds of vessels that require the satellite broadband connection around the globe. The major RF components are designed and manufactured by Intellian's solid in-house engineering to achieve superior antenna gain and xpol isolation recognized among the best performances in the industry.

Gyro-free satellite search capability

Intellian's new generation Gyro-fee satellite search function enables the v60 to acquire and lock onto the satellite without requiring a separate input from the ship's gyrocompass

Wide elevation range

The v60 has a wide elevation range from -10° to 100°, respectively which offer seamless signal reception while the vessel is traveling near the Equator or Polar Regions.

Remote management solution

The v60 can be accessed, monitored, and controlled from any location in the world through the embedded web server, which can save tremendous time and cost from the hundreds of routine maintenance activities. These solutions include operating firmware upgrade, tracking parameters resets and system diagnostic.

Save installation and maintenance time

Simple design allows users to install and setup the system without the need for a skilled engineer. The v60 provides the utmost in reliability resulting in time and cost savings in maintenance.

Various platform compatibility

The v60 is fully integrated with ABS(Automatic Beam Switching) function with leading service providers who use the embedded OpenAMIP protocol of the iDirect platform and v60 is also compatible with various platforms such as Hughes, Comtech, SatLink and more.

System Configurations

For your satellite communication system to work properly, the system will have to be connected with all of the provided components properly, as shown in the figure below. Separate purchase of a satellite modem, ship's gyrocompass, Intellian Dual VSAT Mediator are required.



INSTALLING THE ANTENNA

System Package

Antenna Unit ACU (Antenna Control Unit) Installation Kit

Planning the Installation

Selection of Antenna Installation Site Configure Radiation Hazard/Blockage Zones System Cables Power Requirement Tools Required for Installation

Installation

Unpacking the Wooden Crate Antenna Dimensions Antenna Mounting Templates Position the Radome Open the Radome Hatch Mount the Radome RF Cable Connections Secure the RF Cables

System Package

The package of Intellian v60 consists of antenna unit, ACU and installation kit box.



Antenna Unit

The antenna unit includes an antenna pedestal inside a radome assembly unit. The pedestal consists of a satellite antenna main dish with RF components mounted on a stabilized pedestal. The radome protects the antenna pedestal assembly unit from the severe marine environment.



ACU (Antenna Control Unit)

ACU provides power to the antenna and BUC (Block Up Converter). The digital VFD (Vacuum Fluorescent Display) allows for easy operation of the ACU, even in the dark.







Front panel



Rear panel

The functions of the ACU are as follows,

- System startup
- · Setting the satellite
- Editing satellite information
- Setting the antenna parameter
- Setting the antenna manual search
- Setting the LNB local frequency
- Setting radiation hazard or blockage zone
- Setting modem connections
- Setting GPS and Gyrocompass
- Display versions
- Display power status
- Performing diagnostic tests
- Backup and restore the system settings
- Set up the interface with a PC

Installation Kit

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

Antenna	Q'ty	Description	Size	Remark
	x5	Hex. Bolt	M8 x 50L	
0	x5	Flat Washer	M8	Antenna-Deck
Ó	x5	Spring Washer	M8	
(a) Jamas	x5	Hex Head Wrench Bolt	M6 x 30L	Radome
	x5	Dome Washer	M6	(Spare Blots)
ACU	Q'ty	Description	Size	Remark
C Marine	x5	Tapping Screw	ø 4 x 16	Table Mount Bracket
	x10	Flat Head Screw	M3 x 8L	Rack Mount Bracket ACU
C Marine	x5	Sem's Bolt	M3 x 12L	Table Mount Bracket ACU

Other Components

Item	Image	Q'ty	Description	Size	Remark
4		x2	Rack	-	ACU - 19 inch Rack
-		x2	Bracket Table	-	ACU-Table
2		x1	RG6 Cable	3 m	ACU(Modem Rx) to Modem
3		x2	RG6 Cable	15 m	Antenna(Modem Tx) to Modem & Antenna(ACU Rx) to ACU(Antenna Rx)
4		x1	BUC Power Cable	15 m	Antenna(BUC In) to ACU(BUC Power)
5	and the second	x1	AC Power Cord (CEE7/7)	1.5 m	ACU Power
6	and and	x1	AC Power Cord (USA)	1.8 m	ACU Power
7		x1	PC Serial Cable	1.8 m	ACU to PC
8	R	x1	USB Cable (A-A / M-M)	1.8 m	ACU to PC
9		x1	iDirect Interface Cable	1.5 m	ACU to Modem
10	المراجع	x2	D-Sub 9 Pin Male Connector	-	ACU
11		x1	BUC Power Connector (AK950-2)	-	Antenna (BUC In)
12	$\bigcirc)$	x1	N to F Adapter	-	N(Male) to F(Female) Adapter
13	٢	x1	Installation CD	-	-
14	\bigcirc	x1	User Manual	-	-
15	\bigtriangledown	x1	Mounting Template	-	-
16	\bigcirc	x1	Unpack Wooden Crate Instruction Guide	-	-

Planning the Installation

Selection of Antenna Installation Site

Install the antenna in accordance with the following procedures to insure maximum performance of the antenna. The ideal antenna site has a clear view of the horizon or satellite all around. Please be sure there are no obstacles within 15° above the center of the antenna. Any obstacles can prevent the antenna from transmitting and receiving the satellite signal.

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 (1.2 m) above or below the level of the radar and minimum of 15 feet (4.6 m) 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. If these conditions can be only partially satisfied, find the best compromised installation site between the various considerations.



Configure Radiation Hazard/Blockage Zones

It is important to setup the radiation hazard or blockage zones for Intellian VSAT communication systems. The ACU can be programmed with relative azimuth and elevation sectors to create up to five zones where transmit power would endanger personnel who are frequently in that area or blockage exists. Several things happen when the antenna is within one of these zones.

- 1. "BLOCK" will be displayed on the ACU screen.
- 2. Tracking continues as long as the signal level is greater than the predefined threshold value. When the signal level drops below the threshold value the antenna will wait "Search Wait Time" parameter amount of time and re-target the satellite you targeted last. The antenna will continue to re-target the satellite until the satellite is re-acquired and tracking can be resumed.
- **3.** A transmit inhibit output from the ACU will disable/mute the modem transmit.

System Cables

Before installing the system cables, you need to take the following points into consideration.

- 1. All cables need to be well clamped and protected from physical damage and exposure to heat and humility.
- 2. Cable with an acute bend is not allowed.
- 3. Where a cable passes through an exposed bulkhead or deck head, a watertight gland or swan neck tube should be used.

• RF Cable (Customer Furnished)

Due to the voltage losses across the length of the RF coaxes at L-Band, Intellian recommends the following 50 ohm coax cable types for standard system installations. For cable runs longer than 120 meters, please consult Intellian Technologies. Intellian provides a N to F type adapter to connect 75 ohm coaxial cables.

Recommended **RF** Cables

Run Length	Coaxial Cable Type
Up to 30 meters	LMR-300-50
Up to 70 meters	LMR-400-50
Up to 120 meters	LMR-600-50

Gyro Compass / GPS Interface Cable (Customer Furnished)

Recommended BF Cables	Туре	Multi-conductor, Shielded
	Number of wires	5 conductors for Synchro
		2 conductors for NMEA

• BUC Power Cable

Recommended **BUC Power Cables**

Cable Length	mm ² per conductor
Up to 30 meters	1.25 mm ²
Up to 50 meters	2.30 mm ²
Up to 70 meters	3.00 mm ²
Up to 120 meters	5.00 mm ²

Power Requirement

Intellian v60 has been designed to work on a vessel's power supply rated at 100-240 V AC.



Tools Required for Installation

Antenna Installation

Unpacking the wooden crate of v60

Step 1. Remove the top panel and 8 pins from the hinges of the wooden crate.



Step 2. Remove ACU box and installation kit box.



Step 3. Remove 4 shipping blots that mount the antenna to the pallet.







Antenna Dimensions

The method of installation and mounting of antenna may vary with vessel design but the following procedures are applicable in most situations, and will result in a secure and effective installation. Confirm the height and diameter of the antenna before installing it.



Antenna Mounting Templates

The mounting holes must be in the exact same place as shown in the diagram below.



Installing the System Cables

The cables must be routed from the antenna through the deck and through various ship spaces to the antenna control unit. When pulling the cables in place, avoid sharp bends, kinking, and the use of excessive force.

Cable Entry



Mounting the Radome

Bolt the radome base directly to the ship's deck or mounting plate (flat mounting area).



RF Cable Connections

Ensure that the power switch is off during the installation period and all the cables are connected properly between the antenna control unit and the power switch box. Using tie wraps supplied with radome, secure the RF cables connected to the power switch box. When all the hardware and cable have been installed, turn on the power switch.





Reinstall the top radome.



WARNING: The elevation and cross-level motor breaks prevent dish damage while the antenna is in power off mode. However, Intellian strongly recommends to restraint the antenna pedestal properly during underway conditions when power is removed from the antenna. The normal operating condition for the v60 is to remain powered up at all times.

Position the Radome

The radome should be positioned with the BOW marker aligned as close as possible to the ship's centerline.



INSTALLING THE ACU

Mounting the ACU

19" Rack Mount Type Table Mount Type ACU Dimensions Selection of ACU Installation Site

Connecting the System

Connecting the System with a Ship's Gyro Connecting the System without a Ship's Gyro ACU Connector Guide

Mounting the ACU

Intellian supplies two type of mounting methods (a) 19" Rack Mount Type and (b) Table Mount Type to mount your ACU.



19" Rack Mount Type

- The ACU should be installed using the two supplied Rack Mounting Brackets which allow for a side 19" rack mounting configuration.
- Using the self tapping screws supplied, attach the mounting brackets to the sides of the ACU.
- Place the ACU in the location where it is going to be installed.
- Connect the cables to the rear of the ACU.

Table Mount Type



Table Mount Type

- The ACU should be installed using the two supplied Table Mounting Brackets which allow for a top or bottom mounting configuration.
- Using the self tapping screws supplied, attach the mounting brackets to the sides of the ACU.
- Place the ACU in the location where it is going to be installed.
- Using a pencil to mark the 4 hole positions (2 each side), and use the appropriate drill bit to drill them.
- Connect the cables to the rear of the ACU.



WARNING: Ensure that the cables connected to the ACU are long enough to prevent damage themselves when the ACU is pulled out from the rack.



ACU Dimensions

Selection of ACU Installation Site

The ACU should be installed below deck, in a location that is: Dry, cool, and ventilated. The front panel should be easy accessible to user.

Ship Gyro Connection

Connecting the System with a Ship's Gyro

The ship's gyrocompass provides true heading input to the antenna which easily allows the antenna to target and acquire the desired satellite. Therefore, Intellian always recommend the user to connect a ship's gyro to the antenna through the gyro interface on the ACU. If the ship's gyrocompass output is other than NMEA 0183 and Synchro separate purchase of a gyro converter is required.

- NMEA 0183 Gyro Compass Interface Cable (Customer Furnished)
- Type: 2 conductors for NMEA 0183
- NMEA heading sentence: xx HDT (4800 Baud, 8, N,1) If there is no HDT sentence then use HDM sentence instead.





WARNING: Determine the type of gyrocompass OUTPUT on the ship, assure that the GYRO TYPE parameter is set correctly (refer to the operation section of this menu). Heading in most cases will be 000.0 and you will have to enter the initial value of ships current value whenever you turn on the ACU. The ship's heading is not required to input when your system is connected to NMEA or 1:1 synchro gyrocompass output.

Connecting the System without a Ship's Gyro

For a vessel where the ship's gyro compass is not installed or is difficult to be connected, the Intellian Gyro-Free satellite search function will be automatically enabled to allow the antenna to lock onto the desired satellite without requiring an external heading input.

The table below provides an example of the Gyro-Free satellite search algorithm. The Search 1 or Search 3 satellite search pattern will be triggered according to the existence of heading input and the setting of the heading device.

- Search 1: The antenna will search for the target satellite by turning its azimuth angle in CCW direction until the antenna receives the lock signal from the modem or the DVB transponder of the target satellite is decoded by the antenna.
- Search 3: The antenna will search for the target satellite by turning its azimuth angle directly to the position calculated using the ship's heading input and lock onto the satellite.

Setting of Heading Device			
Existence of Heading Data	No Device	NMEA/Synchro	Ground Test
w/ Heading Data	Search 1	Search 3	Search 3
w/out Heading Data	Search 1	Search 1	Search 3

Quick Setup Procedure

- Set the satellite having DVB transponder as the target satellite.
- Set "No Device" to the heading device.
- The antenna will search for the target satellite by turning its azimuth angle in CCW direction and lock onto the satellite signal until the antenna receives a lock signal from the modem or the DVB transponder of the target satellite is decoded.
- Set the heading device as NMEA / Synchro
- Enter "Manual search" menu and press "Function" key to save the current settings. Intellian ACU will automatically calculate and save the BOW offset.
- Upload the real TARGET satellite pre-configured from the library.
ACU Connector Guide

Synchro Connector

	5 4 3 2 1 9 8 7 6 0 ACU Synchro Port D-Sub 9 pin Female		D-Sub 9 pin Male connector Supplied Component
Pin	Signal	Pin	Signal
1	-	6	-
2	-	7	-
3	SYNCHRO_R2	8	SYNCHRO_R1
4	SYNCHRO_R3	9	SYNCHRO_S2
5	SYNCHRO_S1		

Console Port

	5 4 3 2 1 9 8 7 6 ACU Console Port D-Sub 9 pin Female		D-Sub 9 pin Male connector Supplied Component
Pin	Signal	Pin	Signal
1	GND	6	GPS OUT -
2	GPS OUT +	7	MODEM_SIGNAL_IN
3	MODEM_LOCK	8	MODEM_CTRL2
4	MODEM_CTRL1 (TX MUTE)	9	GPS IN -
5	GPS IN +		

NOTE: NMEA GPS IN/OUT Sentence: GPGLL (4800 Baud, 8, N, 1)

• RS232 / 422 Connector (Modem & BUC Interface)

	D-Su	4 3 2 1 9 8 7 6 Ib 9 pin RS232 Connector			D-	9 4 9 2 1 9 8 7 6 Sub 9 pin RS422 Connector	
Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	-	6	-	1	-	6	-
2	RXD	7	-	2	RXD +	7	RXD -
3	TXD	8	-	3	TXD +	8	TXD -
4	-	9	-	4	-	9	-
5	GND			5	GND		

OPERATING THE ACU

Introduction

Normal Mode

Setup Mode

Installation Settings

Antenna Settings

Manual Search Setup Antenna LNB pol Angle Search Parameters Setup Antenna Parameters Setup Block Zone Antenna Diagnostic Test

Satellite Settings

Load Satellite Edit Satellite Information Add Satellite Information Check NID

System Settings

Set LNB Local Oscillator Frequency Set Location Set Modem Port System Backup & Restore Display Versions

Introduction

This section of the handbook describes how to setup your system after installing the ACU. It includes the following functions:

		Mode Arrow Keys
ACU Soft Keys	Intellian Technologies VP-7200 Tr on	Antenna Control Unit Image: Control Unit
	PC Cable Status (USB) LED	Return Function Number Power Keys Switch
Soft Key Functions	Soft key	Function
	MODE	Enter SETUP mode
	RETURN	In SETUP mode: return to previous menu / option or save the adjusted settings. In normal mode: return to the first page of antenna current status.
	FUNCTION	Save the adjusted settings.
	ARROW KEYS	Select from the alternative options to increse or decrese the selected character to the desired value.
	ОК	Enter next step / menu
	NUMBER KEYS	Input the numbers

Normal Mode

Startup

With the system installed and power applied, the ACU screen will show the following sequence.

Start up

INTELLIAN TECHNOLOGIES INC.

1. The data communication is being established between the antenna and the ACU.

Initialize antenna info

INITIALIZE – ANTENNA INFO INTELLIAN V60

2. The ACU receives antenna information.

Initialize elevation & cross level angle

INITIALIZE - EL POSITION INTELLIAN V60

3. The elevation angle and cross level angle are initialized.

Initialize azimuth angle

INITIALIZE - AZIMUTH POSITION INTELLIAN V60

4. The azimuth angle is initialized.

Initialize target satellite position

INITIALIZE - SAT POSITION INTELLIAN V60

5. The antenna returns to the target satellite position.

Search status

4 SEARCH1 138.0E TELST_18 SIG:301 VL ▶ AZ:292.7< 202.7> EL: 48.3 SK:-72.0

6. The antenna is searching for the target satellite.

Tracking status

4	TRACKING	138.ØE ⁻	FELST_18 S)	[G:501⊕VL	ŀ
	AZ:292.7<	202.7>	EL: 48.3	SK: -72.0	Fn

7. The antenna has locked onto the satellite.

Monitoring Antenna Current Status

When the ACU power is on, it displays the status of the antenna. The current status of the antenna is displayed as shown below.

Current search status

·	SEARCH1	1	38.0	E T	ELST.	_18 SI	G:301	VL Þ
	AZ:292.	7 <	202.	7>	EL:	48.3	SK: -72	. 0

1. The antenna is searching for the target satellite.

Current tracking status

ļ	T	R	A	С	К	I	Ν	G	1	. 3	38	3,	. 1	0	Е		T	E	L	S	T		1	8		S	Ι	G	::	3	Ø	1		V	L.		ŀ
	A	Ζ	:	2	9	2		7	(20	2:	2		7)		E	L	:		4	8	:	3			S	K	:		7	2	=	Ø	F	n

2. The antenna has locked onto the target satellite.

Current IF signal level (SIG / AGC) is displayed. SIG will be displayed when NBD (Narrow band detection) mode for TRACKING SIGNAL is chosen to be used and AGC will be displayed when DVB mode of TRACKING SIGNAL is chosen to be used.

The symbol "•" will be only displayed when the satellite signal is strong enough to locked onto. [VL] indicates the LNB's local frequency corresponding to 13V is in use for the signal reception.

VL: 13V + 0 kHz HL: 18V + 0 kHz VH: 13V + 22 kHz HH: 18V + 22 kHz

True azimuth [292.7] position of the antenna is the sum of ships heading 090.0 [HDG] and antenna relative [202.7].

Save current satellite info

SAVE	CURRENT	SAT INFO	
⇒ YES			NO

3. Press FUNCTION key to save current satellite information or abort and return to the main display. "Fn" will be displayed only if the antenna is in tracking mode.

Current tracking status

-4	T	R	A	С	К	I	Ν	G	1	3	8		Ø	Е		T	Е	L	S	T		1	8		S	Ι	G		3	Ø	1	#\	/L			ŀ
	A	Ζ	::	2	9	2		7	\langle	2	Ø	2		7	>		Е	L	:		4	8		3			S	K	:		7	2.	Q	<u>þ</u>	F	n

4. Press RIGHT arrow key to display NBD, GPS and ship's heading information.

Tracking & Heading information

4	NBD	F:1	247000	BW: 1000	SIG:3010 +
	004.	53E	52.22N	HDG:090.0	L:10000 Fn

5. NBD, GPS and ship's heading information are shown.

- NBD (Narrow Band Detection) IF tracking frequency: 1247000 kHz
- Detected Band Width: 1000 kHz
- SIG (Signal Level): 301 (When NBD mode for tracking signal is chosen)
- W (West) / E (East) Longitude: 4.53° E
- N (North) / S (South) Latitude: 52.22° N
- HDG (Ship's Heading): 90°
- LNB local oscillator (LO) frequency: 10000 MHz

Power status

4	[PWR]	ANT:	26.4V	LNB:	13V +	ØKHZ	ŀ
		ACU:	27.1V	[POL]	TX: V	RX:H	

6. Press RIGHT arrow key to display the current operation voltage for antenna, ACU and LNB. POL indicates the TX polarity (VERTICAL) and RX polarity (HORIZONTAL).

Antenna & ACU versions

4	V1-60-03H	ANT. SERIAL	1.	00	ŀ
	VP-T100	ACU SERIAL	1.	00(1.00)	

7. Press RIGHT arrow key to display the below information.

- Antenna part number, antenna serial number and PCU firmware version.

- ACU part number, ACU serial number, ACU firmware version and Library version.

Press RETURN Key to return to the first page of the antenna current status.

Setup Mode

Enter the SETUP mode simply follow the instructions below.

Searching / Tracking mode

-1	1	"	R	A	С	K	Ι	Ν	G	1	3	8	8.	Ø	E		T	E	L	S	T		1	8		S	I	G	::	3	Ø	1	1	ţ	71		1	ŀ
	Æ	1	Ζ	:	2	9	2		7	\langle	2	2	12		7	þ		E	L	:		4	8		3		S	К	::			7	2.	. 1	2	F	F	7

1. While the antenna is in SEARCHING / TRACKING mode, press MODE key to enter SETUP mode. * indicates the key pad lock function is on (Refer to KEY LOCK menu to setup the key pad lock function). When key pad lock function is activated press MODE key or when "Fn" menu is activated press FUNCTION key the ENTER PASSWORD menu will be displayed.

Enter password

ENTER PASSWORD

2. If the key pad lock function is on, enter the password before accessing to the SETUP mode. If the key pad lock function is off, access to the SETUP mode directly as Step 3.

Setup mode

SETUP MODE ? → YES NO

.....

3. Press LEFT arrow key to move cursor to YES and press OK key to enter SETUP mode or press RIGHT arrow key to move cursor to NO and press OK key to abort and return to the main display.

Exit setup mode

ode		EXIT	SETUP	MODE	?	
	· YES			ŀ	10	

4. While the antenna is in SETUP mode, press FUNCTION key as shortcut key to exit SETUP mode.

Installation Settings

YES

During the first time installation, it is required to setup the installation settings.

Setup mode

SETUP MODE ? NO

1. Press LEFT arrow key to move cursor to YES and press OK key to enter SETUP mode

Installation menu

÷	A	Ν	T	Е	Ν	Ν	A
+	S	Y	S	T	Е	M	

		0	A	I	Ľ.,	L	L	1	I	Ľ.,			
•	*+	I	Ν	S	T	A	L	L	A	T	I	ΟN	

2. Press arrow keys to move cursor to INSTALLATION menu and press OK key to enter it.

Select satellite

				S	Е	L	E	С	T		S	A	T	Е	L	L	Ι	T	Е	
.::.	ľ	1]	T	Е	L	S	T		1	8		1	3	8		Ø	Ø	Е	.ů.

3. Press UP and DOWN arrow keys to select the satellite that you wish to track and press OK key to load the selected satellite.

Latitude & Longitude

	LATITUDE	LONGITUDE
.#.	37.00N 👻	126.53E

4. Set the current LATITUDE and LONGITUDE

Press LEFT and RIGHT arrow keys until the desired character is underscored (selected). Press UP and DOWN arrow keys to increase or decrease the value. Or press NUMBER keys to set the desired value directly. Press OK key to set the parameter.

Gyro type

	GYRO TYPE	BOW ADJUST
.#.	NMEA 🐙	000

5. Set the ship's GYRO TYPE* & BOW ADJUST

A search pattern 1 or 3 will be initiated according to which Gyro Type is selected and the existence of the gyro input. Ensure that the supported Gyro Type is set correctly. For v60, if the ship's gyrocompass output is Step-by-Step (SBS), separate purchase of a gyro converter is required.

A search pattern 1 will be initiated automatically if the gyro input does not exist and the gyro type is selected other than GROUND TEST.

The BOW ADJUST is to offset the angle difference between the antenna's bow and the ship's bow (Range: $0 - 360^{\circ}$).

NOTE: The bow offset will not be saved automatically if Search 1 pattern is initiated. In this case, the antenna will need to retarget the desired satellite using Search 1 every time if the antenna restarts.

Gyro search mode		Setting of	Heading D	evice	
	Existence of Heading Data	No Device	NMEA/ Synchro	Ground Test	NO DEVICE NMEA
	w/ Heading Data	Search 1	Search 3	Search 3	SYNCHRO
	w/out Heading Data	Search 1	Search 1	Search 3	GROUND TEST
Madam part & Madam					
protocol	MODEM P	ORT		MODEM	PROTOCOL
	🔺 RS232			SERIA	L GPS
	6. Set MODEM PORT * and MODEM PORT is to select the satellite modem.	MODEM PRO a proper data	OTOCOL*	ation port on th	e ACU to interface with
	MODEM PORT*MORS232I/CRS422OFETHERNETSE	D DEM PROT CONSOLE PEN AMIP RIAL GPS	OCOL*		
LNB local frequency	13V +	ØKHZ		18V+	ØKHZ
		HZ +		1130	ØMHZ
	()
	13V +2	2KHZ		18V+	22KHZ
		HZ +		0975	ØMHZ
	7. Set the LNB local oscillat 13V +22 kHz, 18V +22 kHz) Press LEFT and RIGHT arr Press UP and DOWN arrow to set the desired value dire	or frequency ow keys unti keys to incre- ctly.	for each vo I the desire ase or decre	Itage power. (1 d character is ease the value.	3V +0 kHz, 18V +0 kHz, underscored (selected). Or press NUMBER keys
Load			LOAD	?	
	÷ YE	S			NO
	8. Press RETURN key to loa	d the current	setting or a	bort and return	to the main display.
Loading settings	LOADING				
	DO NOT TUR	N OFF	! #	** 00000	00
	9. Setting is being loaded to The ACU will restart the sys DO NOT TURN OFF ACU Pe	the system. tem automatio OWER while t	cally after u he data is b	ploading the se eing uploaded.	tting.

Tracking status

•	TRACKING	138.ØE [.]	TELST_18 SIG:	301# VL Þ
	AZ:292.7	(202.7)	EL: 48.3 SK:	-72.0 Fn

10. Antenna has locked onto the target satellite.

Antenna Settings

Manual Search

Search the desired satellite manually.

	÷ YES	>	NO
	1. Press LEFT arrow key to m	nove cursor to YES and press OK key	/ to enter SETUP mode.
Antenna menu		+SATEL	LITE
	+SYSTEM	+INSTA	LLATION
	2. Press OK key to enter ANT	ENNA menu.	
Manual search menu	(4 → +MANUAL S	SEARCH +SET P	OL ANGLE 🕨
	+SEARCH P	ARAM +SET P	ARAMETERS

SETHE MODE ?

3. Press OK key to enter MANUAL SEARCH menu.

Antenna movement

ST	ΈP	SI	ZE A	VZIMU	ITH	ELEVATI	(ON	AGC
#	00.	2 :	# 4	231.	7 🕨	48. 3	****	301 Fn

4. Current IF tracking signal level (AGC) / (SIG) is displayed to assist you in manually peaking AZIMUTH (0°-360°) and ELEVATION (0°-90°) angle for best signal level.

Press NUMBER key to change the STEP SIZE (Range: 0.1~99.9). Press LEFT and RIGHT arrow keys to increase or decrease the azimuth angles. Press UP and DOWN arrow keys to increase or decrease the elevation angles.

Press FUNCTION key to save current settings or abort and return to the main display.

Save



5. If the current settings are able to locate the satellite, press FUNCTION key to save "current satellite information". This will help to reduce the satellite acquisition time after restarting the system. Press LEFT arrow key to move cursor to YES and press the OK key to save the settings.

NOTE: If the gyro type is not NMEA or the gyro is not connected to the ACU, the information cannot be saved.

Setup Antenna LNB pol Angle

Setup mode	SETUP	MODE ?
	÷ YES	NO
	1. Press LEFT arrow key to move cursor to YES	S and press OK key to enter SETUP mode.
Antenna menu	→+ANTENNA	+SATELLITE
	+SYSTEM	+INSTALLATION
	2. Press OK key to enter ANTENNA menu.	
et pol angle menu	+MANUAL SEARCH	→ +SET POL ANGLE ►
	+SEARCH PARAM	+SET PARAMETERS
	3. Press RIGHT arrow key to move cursor to senter it.	SET POL ANGLE menu and press OK key to
NB pol angle type	SELECT POL	ANGLE MENU
	CALIBRA	ATION +
	4. Press UP and DOWN arrow keys to select the run the selected operation 'CALIBRATION' or 'N to control LNB pol angle manually. If the control replaced, select CALIBRATION to calibrate LNB	he LNB pol angle menu and press OK key to MANUAL ADJUST'. Select MANUAL ADJUST trol board, LNB pol potentiometer or belt is 3 pol angle.
B pol angle Signal		CIGNAL: 100

LNB p

ANGLE LNE FUL SIUNAL: 190 . 20 Ŧ

5. Press UP and DOWN arrow keys to increase or decrease the LNB pol angle manually and the correspondent SIGNAL level will be displayed next to it. Press RETURN key to return to the main display.

NOTE: LNB POL ANGLE menu will be displayed only if MANUAL ADJUST is selected.

Search Parameters

Setup mode	SETUP MODE ?									
	÷ YES		NO							
	1. Press LEFT arrow key to mo	ove cursor to YES	and press OK key to enter	r SETUP mode.						
Antenna menu			+SATELLITE							
	+SYSTEM		+INSTALLATION							
	2. Press OK key to enter ANTE	NNA menu.								
Manual search menu	4 +MANUAL SI	EARCH	+SET POL /	ANGLE Þ						
	⇒+SEARCH P	ARAM	+SET PARAMETERS							
	3. Press arrow keys to move c	ursor to SEARCH	PARAM menu and press (OK key to enter it.						
Search param	SEARCH WA	IT TIME	INCREMENT	STEP						
		. .	0.50							
Search 1 range	SEARCH	1 AZ	SEARCH1	EL						
	<u>.</u>	. ii .	Ø6							
Search 3 range	SEARCH	3 AZ	SEARCH3	EL						
		. 	Ø 4							

4. Set SEARCH 1 and 3 AZ (Azimuth) range and EL (Elevation) range. SEARCH 2 is reserved for future use.

A search pattern 1 or 3 will be initiated according to which GYRO TYPE is selected and the existence of the gyro input.

Search 1: a search pattern 1 will automatically be initiated when the ship's heading input does not exist / is failed. The antenna will go to the relative azimuth position 0° at the calculated elevation and search in the azimuth CCW direction and search up +0.5° & down -0.5° with a total 6°(\pm 3°) in elevation. The search cycle will repeat until the antenna receives the lock signal from the modem or the DVB transponder of the target satellite is decoded by the antenna. If the desired signal is found and above the predefined detect level, the ACU will enter to Search 3. However, the antenna will not initiate Search 3 pattern but go into TRACKING mode immediately if the desired signal is above the predefined tracking threshold level. If the detected signal is below the predefined tracking threshold level, the search 1 will repeat and start 3° away from the current position.



Search 1 (Gyro Free) Search Pattern

Search 3: a search pattern 3 will automatically be initiated when AGC / SIG falls below the current tracking level threshold value. If the desired signal is found and above the predefined tracking level, the ACU will terminate Search 3 and go into TRACKING mode. A search pattern will automatically be initiated when AGC / SIG falls below the current threshold setting (indicates that satellite signal has been lost). Search is conducted in a two-axis pattern consisting of alternate movements in azimuth (AZ) and elevation (EL) as forming expanding square indicated as below diagram.

Search 3 pattern



Setup Antenna Parameters

These parameters should only be changed by an authorized service technician. Improper setting of these parameters will cause your system to perform improperly.

Setup mode

		SETUP	MODE	2		
<u>-</u> }-	YES				NO	

1. Press LEFT arrow key to move cursor to YES and press OK key to enter SETUP mode.

Antenna menu

÷+ANTENI	NA	+ :	5	A	T	Е	L		Ι	T	E		
+SYSTEI	M	- † -	Ι	N	3	T	A			A	T	ION	

2. Press OK key to enter ANTENNA menu.

Set parameters menu

+MANUAL	SEARCH	+ 3ET	POL	ANGLE
+SEARCH	PARAM	÷+SET	PAR	AMETERS

3. Press arrow keys to move cursor to SET PARAMETERS menu and press OK key to enter it.

Password

ENTER PASSWORD

4. Press 4 digit password to enter SET PARAMETERS menu (1590). Setup parameters is only required after installation or repairs of your antenna system.

These parameters should only be changed by an authorized service technician. Improper setting of these parameters will render your system inoperable.

Set detect & tracking DVB

DET	ЕСТ	DVB	TRACKING DVB
.#.	040	.ii.	020

5. Set DETECT DVB and TRACKING DVB when DVB mode of TRACKING SIGNAL is chosen to be used (Range: 1-200).

DETECT DVB is to set the satellite signal detection level and TRACKING DVB is to set the satellite signal tracking level.

Press LEFT and RIGHT arrow keys until the desired character is underscored (selected). Press UP and DOWN arrow keys to increase and decrease the selected character. Or press NUMBER keys to set the desired value directly. Press OK key to set the parameter. Press RETURN key to select the parameter you wish to edit and press RETURN key again to save or abort and return to the main display.

Set detect & tracking NBD

DE	TECT NB	D	TRACKING	NBD
.#.	040	. .	020	

6. Set DETECT NBD and TRACKING NBD when NBD (Narrow band detection) mode of TRACKING SIGNAL is chosen to be used (Range: 1-200).

DETECT NBD is to set the satellite signal detection level and TRACKING NBD is to set the satellite signal tracking level.

Press LEFT and RIGHT arrow keys until the desired character is underscored (selected). Press UP and DOWN arrow keys to increase and decrease the selected character. Or press NUMBER keys to set the desired value directly. Press OK key to set the parameter. Press RETURN key to select the parameter you wish to edit and press RETURN key again to save or abort and return to the main display.



adjust	BOW ADJUST	EL.ADJUST
	000 -	+0.0

7. Set BOW ADJUST and EL. ADJUST

BOW ADJUST is to offset the angle difference between the antenna's bow and the ship's bow (Range: $0 - 360^{\circ}$) and EL. ADJUST is to offset the angle difference between the mechanical elevation angle and actual elevation angle (Range: $\pm 5^{\circ}$).

Press LEFT and RIGHT arrow keys until the desired character is underscored (selected). Press UP and DOWN arrow keys to increase and decrease the selected character. Or press NUMBER keys to set the desired value directly. Press OK key to set the parameter. Press RETURN key to select the parameter you wish to edit and press the RETURN key again to save or abort and return to the main display.

Idle mode & Reboot antenna

IDLE MODE REBOOT ANTENNA ... OFF + NO

8. Set IDLE MODE and REBOOT ANTENNA

The antenna is balanced at factory. However, after disassembly for shipping, maintenance or parts replacements, antenna balance adjustment may be required. The elevation and crosslevel motors have a brake mechanism integrated into them, therefore, antenna power and IDLE MODE must be ON to release the motor brakes. Balancing is achieved by adding or removing weight blocks at strategic locations to keep the antenna balanced.

IDLE MODE: Press UP and DOWN arrow keys to turn ON/ OFF IDLE MODE. The motor brakes will be released while the IDLE MODE is ON. The antenna will restart automatically if IDLE MODE is re-set from ON to OFF or RETURN key is pressed to exit SETUP mode.

REBOOT ANTENNA: The antenna will restart automatically if REBOOT ANTENNA is ON.

Rate sensor bias

+RATE SENSOR BIAS

+TILT BIAS

9. Set RATE SENSOR BIAS

RATE SENSOR BIAS is to calibrate DC voltage output from the three rate sensors used to sense antenna motion in azimuth, elevation and cross-level axes. The DC voltage output from each of the rate sensors may be vary by an amount which is directly proportional to the direction and rate of motion induced on it.

NOTE: The motion of the ship must be stable when the sensor box is replaced.

Tilt bias

STEP SIZE	ELEVATION	CROSS LEVEL
*Ø.2 *	00.0 .	4 01.0 Þ

10. Set TILT BIAS

TILT BIAS is to adjust the two solid-state tilt sensors used to provide absolute cross-level tilt of the antenna and elevation feedback to eliminate long-term pointing drift (error). The TILT BIAS is required to set when the system is newly installed, antenna control board or sensor box is replaced. Check and see if the bubble is located at the center of the level vial. If not, press OK key to enter TILT BIAS menu to adjust.

Level vial



Setup Block Zone

Up to 5 block or radiation hazard zones can be programmed with relative azimuth and elevation sectors.

Setup mode

	SETUP	MODE ?		
÷ YE	5		NO	

1. Press LEFT arrow key to move cursor to YES and press OK key to enter SETUP mode.

Antenna menu

menu	÷+ANTENNA	+SATELLITE
	+SYSTEM	+INSTALLATION

2. Press OK key to enter ANTENNA menu

Block zone menu

•

⇒+BLOCK ZONE

3. Press RIGHT arrow key to move cursor to BLOCK ZONE menu and press OK key to enter it. Up to 5 block zones is allowed to be programmed.

+DIAGNOSIS

Block zone 1		ZONE	1 ON	BLOCK	 .									_
Block zone range	•	÷ΑΖ.	1 8	TART		AZ.	1	END	EL.		L	IM I	(T	ŀ
		Ø	00			ØØ	Ø			90	i			

4. Set ZONE 1 BLOCK

Press UP and DOWN arrow keys to select "ON" to setup the block zone for ZONE 1.

Press OK key to use ZONE 1 BLOCK and set zone 1 block range.

Press RETURN key to select the parameter you wish to edit and press the RETURN key again to save or abort and return to the main display.

Set the AZ.1 START, AZ.1 END and EL.1 LIMIT while ZONE 1 BLOCK is ON.

This is the clockwise of the two points. AZ.1 START is where the relative azimuth starts and AZ.1 END is where the relative azimuth ends (Range: 0- 360°). EL.1 Limit is where the elevation starts (Range 0- 90°).

Press LEFT and RIGHT arrow keys until the desired character is underscored (selected).

Press UP and DOWN arrow keys to increase and decrease the selected character.

Or Press NUMBER keys to set the desired value directly. Press OK key to set the parameter. Press RETURN key to select the parameter you wish to edit and press RETURN key again to save or abort and return to the main display.

b-

Block zone 2

ZONE 2 BLOCK ØFF +

5. ZONE 2 to ZONE 5 BLOCK setting is same as ZONE 1 BLOCK. Press OK key to set ZONE 2 BLOCK and set next parameter.

Save

	SAVE ?	
→ YES		NO

6. Press LEFT arrow key to move cursor to YES and press OK key to save and execute the current settings. Or press RIGHT arrow key to move cursor to NO and press OK key to abort and return to the main display.

Antenna Diagnostic Test

Refer to the diagnosis codes for the test results.

Setup mode		
octup mode	SETUR	Y MODE ?
	÷ YES	NO
	1. Press LEFT arrow key to move cursor to Y	ES and press OK key to enter SETUP mode.
Antenna menu		+SATELLITE
	+SYSTEM	+INSTALLATION
	2. Press OK key to enter ANTENNA menu.	
Diagnosis menu	4 +BLOCK ZONE	→+DIAGNOSIS ►
	3. Press arrow keys to move cursor to DIAGN	NOSIS menu and press OK key to enter it.
Full diagnostic test	DIAGNOSIS	COMMUNICATION
	* FULL TEST *	READY
	4. Press UP and DOWN arrow keys to selec and press OK key to execute the selected dia Menus for DIAGNOSIS are FULL TEST and C	t a full diagnostic test or single diagnostic test agnostic test. CODE 101 ~ CODE 115.
Full diagnostic test result	DIAGNOSIS	FULL TESTING
	FULL TEST	**********
	5. A full diagnostic is successfully completed	
Single diagnostic test result	DIAGNOSIS	COMMUNICATION
	CODE 101	RESULT : PASSED

6. A single diagnostic test is successfully completed.

Diagnosis Code:

- CODE 101: The data communication between the antenna and the ACU is tested.
- CODE 102: The azimuth motor is tested.
- CODE 103: The elevation motor is tested.
- CODE 104: The cross-level motor is tested.
- CODE 105: The azimuth encoder is tested.
- CODE 106: The cross-level encoder is tested.
- CODE 107: The rate sensor is tested.
- CODE 108: The tilt sensor is tested.
- CODE 109: The sensor box motor is tested.
- CODE 110: The LNB is tested.
- CODE 111: The LNB pol motor is tested.
- CODE 112: The sub-reflector is tested. (Skip for v-Series communication products)
- CODE 113: The antenna power is tested.
- CODE 114: The ACU power is tested.
- CODE 115: The receiver power is tested.
 - (Skip for v-Series communication products)

An example of test result: ••2•••••••••-

- •: test is passed
- 2: test is failed (CODE102)
- -: test is skipped (TVRO products only)
- ?: test is in process

Satellite Settings

Load Satellite

Setup mode

Satellite

Load sat

		SETUP MODE ?
	÷ YES	NO
1. Press LEFT	arrow key to move o	cursor to YES and press OK key to enter SETUP mod
+ A	NTENNA	→+SATELLITE
+S	YSTEM	+INSTALLATION
2. Press RIGH	T arrow key to move	e cursor to SATELLITE and press OK key to enter it.
÷+L	OAD SAT.	+EDIT SAT.

Load satellite

				L	0	A	D	S	A	T	E	I	L	Ι	T	Е	
 ľ	1]	T	E	L	S	Τ_	1	8			3	8	=	Ø	Ø	· i ··

4. Press UP and DOWN arrow keys to select satellite that you wish to track. Press OK key to load the selected satellite.

Load

		LOAD ?	
÷	YES		NO

5. Press LEFT arrow key to move cursor to YES and press OK key to load the selected satellite and execute the current settings. Or press RIGHT arrow key to move cursor to NO and press OK key to abort and return to the main display.

Edit Satellite Information

Setup mode	CETHD MANE O				
		ocior	nord :		
	(8		NO	
	1. Press LEFT arrow key to	move cursor to YES	and press OK key t	o enter SETUP mode.	
Satellite menu	+ANTENNA		÷+SATELL	.ITE	
	+SYSTEM		+INSTAL	LATION	
	2. Press RIGHT arrow key t	o move cursor to SAT	ELLITE and press (OK key to enter it.	
Edit sat menu	+LOAD SA		÷+EDIT €	AT.	
	+ADD SAT		+CHECK	NID	
	3. Press RIGHT arrow key a	nd OK key to enter E	DIT SAT. menu.		
Edit satellite		EDIT SAT	ELLITE		
		TELST_18	138.00E	.ii .	
	4. Press UP and DOWN arr key to edit the selected sate	ow keys to select the ellite.	satellite that you w	ish to edit and press OK	
Edit longitude & name	LONGITUD	E	EDIT	NAME	
	. . 138.0E	. .	TELSI	_13	

5. Edit satellite orbit position, LONGITUDE and satellite NAME.

DVB verifiy method

	DVB	VERIFY		SKEW	OFFSET
.#.	DVB	DECODE	 .	+0.0	

6. Edit satellite **DVB VERIFY*** method and SKEW OFFSET.

DVB VERIFY will be only activated and applied when DVB mode of TRACKING SIGNAL is chosen to be used. Press UP and DOWN arrow keys to select DVB VERIFY and press OK key to set the parameter.

DVB VERIFY*

AGC – use signal level for satellite tracking. DVB Lock – use DVB Lock for satellite tracking. DVB Decode – use DVB Decode for satellite tracking. DSS Decode – use DSS Decode for satellite tracking.

Set LNB local frequency

SELECT LOCAL ± 11300MHZ =

NBD

TRACKING SIGNAL

7. Set SELECT LOCAL* frequency and TRACKING SIGNAL*.

Press LEFT and RIGHT arrow keys until the desired character is underscored (selected). Press UP and DOWN arrow keys to select the LNB local frequency from the installed LNB. Or press NUMBER keys to set the desired value directly. Press OK key to set the parameter.

SELECT LOCAL* The selectable LNB frequencies are depended on the installed LNE type.		TRACKING SIGNAL * NBD DVB	
---	--	--	--

Set polarity

RX POL		TX POL
. VERT.	. ii .	HORI.

8. Set RX POL and TX POL

To select the polarity for both RX (receive) and TX (transmit).

Press UP and DOWN arrow keys to select VERTICAL or HORIZONTAL.

Press OK key to set the parameter.

Set DVB tracking frequency

DVB FREQ.	SYMBOL	NID
11747MHZ∓	21300KHZ	ØXØØAD

9. Set DVB FREQUENCY, SYMBOL RATE and NID when DVB mode of TRACKING SIGNAL is chosen to be used.

45,000 is the maximum allowed symbol rate value. NID (network ID) range is from 0 x 0000 to 0 x FFFF (hexadecimal digit).

Press LEFT and RIGHT arrow keys until the desired character is underscored (selected). Press UP and DOWN arrow keys to increase or decrease the value. Or press NUMBER keys to set the desired value directly. Press OK key to set the parameter.

Set NBD tracking frequency

	NBD	FREQ.	BANDWIDTH
.#.	1070.	000MHZ#	01000KHZ

10. Set NBD IF FREQUENCY and BANDWIDTH when NBD (Narrow Band Detection) mode of TRACKING SIGNAL is chosen to be used.

Press LEFT and RIGHT arrow keys until the desired character is underscored (selected). Press UP and DOWN arrow keys to increase or decrease the value. Or press NUMBER keys to set the desired value directly. Press OK key to set the parameter.

Save



11. Press LEFT arrow key to move cursor to YES and press OK key to save and execute the current settings. Or press RIGHT arrow key to move cursor to NO and press OK key to abort and return to the main display.

Add Satellite Information

Setup mode	ŝ	TUP MODE ?				
	÷ YES	NO				
	1. Press LEFT arrow key to move curso	or to YES and press OK key to enter SETUP mode.				
Satellite menu	+ANTENNA	*+SATELLITE				
	+SYSTEM	+INSTALLATION				
	2. Press RIGHT arrow key to move cure	sor to SATELLITE and press OK key to enter it.				
Add sat menu	+LOAD SAT.	+EDIT SAT.				
	÷+ADD SAT.	+CHECK NID				
	3. Press DOWN arrow key and OK key to enter ADD SAT. menu.					
Set longitude & name	4 LONGITUDE	EDIT NAME +				
	000.00E +	SAT.00				
	4. Set satellite LONGITUDE and satellit	e NAME.				
DVB verify method	DVB VERIFY	SKEW OFFSET				
	. ■ DVB DECODE +	+ 00. 0				
	5. Edit the satellite DVB VERIFY * and S	SKEW OFFSET.				
	DVB VERIFY will be only activated and chosen to be used. Press UP and DOV key to set the parameter.	DVB VERIFY will be only activated and applied when DVB mode of TRACKING SIGNAL is chosen to be used. Press UP and DOWN arrow keys to select DVB VERIFY and press OK key to set the parameter.				

DVB VERIFY* AGC – use signal level for satellite tracking. DVB Lock – use DVB Lock for satellite tracking. DVB Decode – use DVB Decode for satellite tracking.

DSS Decode – use DSS Decode for satellite tracking.

Set LNB local frequency

	SELECT LOCAL 10000MHZ#	TRACKING SIGNAL NBD
	6. SELECT LOCAL * to set LNB local of The selectable LNB frequencies are de Press LEFT and RIGHT arrow keys unt Press UP and DOWN arrow keys to ind Or press NUMBER keys to set the des Press OK key to set the parameter.	scillator frequency and TRACKING SIGNAL *. pended on the installed LNB type. il the desired character is underscored (selected). crease or decrease the value. ired value directly.
	SELECT LOCAL* The selectable LNB frequencies are depended on the installed LNB type.	TRACKING SIGNAL* NBD DVB
Set polarity	RX POL . VERT. #	TX POL Hori.
	7. Set RX POL and TX POL To select the polarity for both RX (rece Press UP and DOWN arrow keys to se Press OK key to set the parameter.	ive) and TX (transmit) pol. lect VERTICAL or HORIZONTAL.

Set DVB tracking frequency

DVB FREQ.	SYMBOL	NID
.∴00000MHZ∓	00000KHZ	ØXØØØØ

8. Set DVB FREQUENCY, SYMBOL RATE and NID when DVB mode of TRACKING SIGNAL is chosen to be used.

45,000 is the maximum allowed symbol rate value. NID (network ID) range is from 0 x 0000 to 0 x FFFF (hexadecimal digit).

Press LEFT and RIGHT arrow keys until the desired character is underscored (selected).

Press UP and DOWN arrow keys to increase or decrease the value.

Or press NUMBER keys to set the desired value directly.

Press OK key to set the parameter.

Sat NBD tracking frequency

	NBD	FREQ.	BANDWIDTH
.#.	0000.	000MHZ .	00000KHZ

9. Set NBD IF FREQUENCY and detection BANDWIDTH when NBD (Narrow band detection) mode of TRACKING SIGNAL is chosen to be used.

Press LEFT and RIGHT arrow keys until the desired character is underscored (selected). Press UP and DOWN arrow keys to increase or decrease the value.

Or press NUMBER keys to set the desired value directly. Press OK key to set the parameter.

Save		SAVE	?	
	 YES			NO

10. Press LEFT arrow key to move cursor to YES and press OK key to save and execute the current settings. Or press RIGHT arrow key to move cursor to NO and press OK key to abort and return to the main display.

Check NID

Setup mode		SETUP MODE ?
	÷ YES	NO
	1. Press LEFT arrow key to move	cursor to YES and press OK key to enter SETUP mode.
Satellite menu	+ANTENNA	++SATELLITE
	+SYSTEM	+INSTALLATION
	2. Press RIGHT arrow key to mov	ve cursor to SATELLITE menu and press OK key to enter it.
Check NID menu	+LOAD SAT.	+EDIT SAT.
	+ADD SAT.	→+CHECK NID
	3. Press DOWN arrow key and O	K key to enter CHECK NID menu.
NID verification	[CHECK NID]	F:12490 S:27490 0X00AD
	PRESS OK	RECEIVED NID (0X0000)
	4. CHECK NID is to verify the NID Press OK key to verify the NID	0 (Network ID) of the current tracking transponder. [0 x 0000] only when " PRESS OK" function is activated.

4. CHECK NID is to verify the NID (Network ID) of the current tracking transponder. Press OK key to verify the NID [0 x 0000] only when "PRESS OK" function is activated. "PRESS OK" function will only be activated when DVB Lock signal is confirmed by the antenna. However, "NO LOCK" message will be displayed if DVB Lock signal can't be confirmed.

System Settings

Set LNB Local Oscillator Frequency

Setup mode	SETUP MODE ?					
	→ YES	NO				
	1. Press LEFT arrow key to move cursor t	o YES and press OK key to enter SETUP mode.				
System menu	+ANTENNA	+SATELLITE				
	÷+SYSTEM	+INSTALLATION				
	2. Press DOWN arrow key to move curso	r to SYSTEM and press OK key to enter it.				
et local frequency menu	4 ++SET LOCAL	+SET LOCATION +				
	+MODEM PORT	+BACKUP&RESTORE				
	3. Press OK key to enter SET LOCAL mer	nu to set the LNB local frequency.				
LNB info	(4 ÷13V + ØKHZ	18V + ØKHZ 🕨				
	10000MHZ	11300MHZ				
	13V + 22KHZ	18V + 22KHZ				
	10750MHZ	. Ø9750MHZ ₩				

Press RETURN key and press LEFT and RIGHT arrow keys to select the parameter you wish to edit. Press OK key to edit parameter. Or press RETURN key again to return to the main display.

LNB LOCAL: The selectable LNB frequencies are depended on the installed LNB type.

Save

	SAVE	?	
÷ YE	S		NO

5. Press LEFT arrow key to move cursor to YES and press OK key to save current settings. Or move cursor to NO and press OK key to abort and return to the main display.

Set Location

Setup mode					
-		SETU	r MODE		
	÷ YE≦]			
	1. Press LEFT arrow key to n	nove cursor to `	ES and pres	s OK key to en	iter SETUP mode.
System menu	+ANTENNA		+8	ATELLI	ТЕ
	++SYSTEM		+ I	NSTALL	ATION
	2. Press DOWN arrow key to	move cursor to	SYSTEM ar	nd press OK ke	y to enter it.
Set location menu	4 +SET LOCA	۱L.	÷+3E	T LOCA	TION Þ
	+MODEM P(DRT	+BA	CKUP&RI	ESTORE
	3. Press RIGHT arrow key to	move cursor to	SET LOCAT	ION and press	OK key to enter it.
Gyro type and Baud rate	GYRO TY	/PE	BA	UD RATI	
	NMEA		.#.	4800 🔹	
	4. Set the ship's GYRO TYPI A search pattern 1 or 3 will b existence of the gyro input. S your device.	E* and BAUD R be initiated acco Set the BAUD R	ATE ording to white ATE as 4800	ch GYRO TYPE ,9600,19200 or	E is selected and the r 38400 according to
	A search pattern 1 will be init type is selected other than G	ROUND TEST.	ally if the gy	ro input does n	ot exist and the gyro
	NOTE : The bow offset will not antenna will need to re target the	pe saved automa desired satellite	tically if Searc using Search	h 1 pattern is init 1 every time if the	tiated. In this case, the e antenna restarts.
Gyro search type		Setting of H	leading Dev	vice	
	Existence of Heading Data	No Device	NMEA/ Synchro	Ground Test	NO DEVICE NMEA
	w/ Heading Data	Search 1	Search 3	Search 3	SYNCHRO
	w/out Heading Data	Search 1	Search 1	Search 3	GROUND TEST

Latitude & longitude

ŧ	÷ LATI	TUDE	LONGITUDE	ŀ
	37.	22N	126.50E	

5. Set the current LATITUDE and LONGITUDE

Press LEFT and RIGHT arrow keys until the desired character is underscored (selected). Press UP and DOWN arrow keys to increase or decrease the value. Or press NUMBER keys to set the desired value directly.

Press the OK key to set the parameter.

Heading

٠ŧ

Η	Е	Å	D	Ι	Ν	G
Ø	9	Ø		Ø		

6. Entry of ships heading is not required when your system is connected to a NMEA0813 or 1:1 Synchro Heading output. Ensure that the supported Gyro Type is set correctly. For v60 if the ship's gyrocompass output is Step-by-Step (SBS), separate purchase of a gyro converter is required.

Save



ŀ

7. Press LEFT arrow key to move cursor to YES and press OK key to save current settings. Or move cursor to NO and press OK key to abort and return to the main display.

Set Modem Port

O a transmission of a							
Setup mode	SETUP MODE ?						
	÷ YES	NO					
	1. Press LEFT arrow key to move cursor to Y	ES and press OK key to enter SETUP mode.					
System menu	+ANTENNA	+SATELLITE					
	→+SYSTEM	+INSTALLATION					
	2. Press DOWN arrow key to move cursor to	SYSTEM menu and press OK key to enter it.					
Modem port menu	4 +SET LOCAL	+SET LOCATION 🕨					
	→+MODEM PORT	+BACKUP&RESTORE					
	3. Press DOWN arrow keys to move cursor to it.	COM. PORT menu and press OK key to enter					
Set Mediator &	USE MEDIATOR	MODEM PORT					
	L YES +	ETHERNET					
	4 USE MEDIATOR is to enable the usage of MEDIATOR if the antenna is connected to the						

Intellian dual VSAT Mediator.

NOTE: USE MEDIATOR must be disabled if there is no MEDIATOR connected to the ACU. Improper setting of this parameter will cause your ACU's modem interface working incorrectly.

MODEM PORT^{*} is to select a proper data communication port on the ACU to interface with the satellite modem.

MODEM PORT*
ETHERNET
RS422
RS232

Set modem protocol

		P	R	0	T	0	С	0	L	
Ι	/	0		С	0	Ν	S	0	L	E

GPS OUT SENTENCE GPGLL

5. **MODEM PROTOCOL*** is to select a proper communication protocol on the ACU to interface with the modem. **GPS OUT SENTENCE*** is to select the GPS OUT SENTENCE type.

.ů.

MODEM PROTOCOL*

..**i**i.

I/O CONSOLE: is a protocol for interchanging of information (GPS Out, TX mute, and modem lock) between the ACU (through Console port) and a modem.

OpenAMIP: is an ASCII based protocol developed by iDirect for interchanging of information between the ACU and a modem. OpenAMIP is not intended for any purpose except to allow the ACU and a modem to perform synchronized automatic beam switching (ABS).

SERIAL GPS: is a protocol for sending GPS Out information from the ACU (through RS232/422 port) to a modem.

GPS OUT SENTENCE[★] GPGLL GPGGA SIMPLE GPGGA

Use TX mute & EXT. lock

	USE TX	MUTE	USE EXT. LOCK
.#.	YES	•••••	YES

6. USE TX MUTE is to select whether or not to USE TX MUTE function from the satellite modem. A transmit inhibit output from the ACU will disable/mute the modem transmit via a voltage whenever the antenna is blocked, searching, or is mis-pointed 0.5° from the peak satellite position.

USE EXT. LOCK is to select whether or not to use external lock signal from the satellite modern. USE EXT. LOCK item will only be activated when PROTOCOL is set as I/O CONSOLE.

EXT lock & TX mute activation

EXT.	LOCK	ACTIVE	TX MUTE ACTIVE
.#.	LOW	· !! ·	LOW

7. EXT. LOCK ACTIVE is referred that modem lock output from the modem provides a logic input through a 5 V (HIGH) or 0 V (LOW). current to the ACU to identify when it is on the correct satellite. EXT. LOCK ACTIVE item will only be activated when PROTOCOL is set as I/O CONSOLE.

TX MUTE ACTIVE is a transmit inhibit out put from the ACU to disable/mute the modem transmit through a 5 V (HIGH) or 0 V (LOW) current whenever the antenna is blocked, searching, or is mis-pointed 0.5° from peak satellite position. TX MUTE ACTIVE item will only be activated when PROTOCOL is set as I/O CONSOLE.

		SAVE	?	
÷	YES			NO

8. Press LEFT arrow key to move cursor to YES and press OK key to save current settings. Or move cursor to NO and press OK key to abort and return to the main display.

System Backup & Restore

Setup mode		SETUP MODE ?
	÷ YES	NO
	1. Press LEFT arrow key to move c	ursor to YES and press OK key to enter SETUP mode.
System menu	+ANTENNA	+SATELLITE
	÷+SYSTEM	+INSTALLATION
	2. Press DOWN arrow key to move	cursor to SYSTEM menu and press OK key to enter it.
Backup and restore menu	+SET LOCAL	+SET LOCATION +
	+MODEM PORT	→+BACKUP&RESTORE
	3. Press arrow keys to move curs	or to BACKUP & RESTORE menu and press OK key to

enter it.

Default process type

DEFAULT PROCESS TYPE LOAD DEFAULT

.....

4. Press UP and DOWN arrow keys to select **DEFAULT PROCESS TYPE*** Press OK key to set the parameter and the processing message will be displayed.

DEFAULT PROCESS TYPE*

.#.

LOAD DEFAULT: To reset the antenna back to factory default settings. BACKUP USER DATA: To backup the antenna settings set by user. RESTORE USER DATA: To restore the antenna by using the backup user data.

NOTE: When you perform a load default setting, you will lose all the data that is stored on the antenna. Back up the antenna settings to an external hard drive before performing a reset.

Processing

BAC	К	UP	ANT	INFO	
DO	NO	ΤT	URN	OFF!	

Key Lock

Setup mode	SETUP MODE ?									
	⇒ YES	NO								
	1. Press LEFT arrow key to move of	cursor to YES and press OK key to enter SETUP mode.								
System menu	+ANTENNA	+SATELLITE								
	⇒+SYSTEM	+INSTALLATION								
	2. Press DOWN arrow key to move	e cursor to SYSTEM menu and press OK key to enter it.								
Key lock menu	a →+KEY LOCK	+VIEW VERSION »								
	3. Press arrow keys to move cursor to KEY LOCK menu and press OK key to enter it.									
Set key lock and password	KEY LOCK	UNLOCK P/W								
		1590								
	4. Press UP and DOWN arrow keys to choose whether or not to use key pad lock when entering the SETUP mode or saving the satellite information. Setup the password for entering									

the key pad lock. The factory default is 1590.

70

Display Versions

<u> </u>		
Setup mode	SETUP MODE ?	
	↓ YES NO	
	1. Press LEFT arrow key to move cursor to YES and press OK key to enter SETUP mo	ode.
System menu	+ANTENNA +SATELLITE	
	→+SYSTEM +INSTALLATION	
	2. Press DOWN arrow key to move cursor to SYSTEM menu and press OK key to enter	er it.
View version menu	<pre>4 +KEY LOCK →+VIEW VERSION</pre>	ŧ
	3. Press arrow key to move cursor to VIEW VERSION menu and press OK key to ente) r it.
System versions	[VER.] ANT: 1.02 - 1.03 LIB: 1.00	1
	ACU: 1.01 - 2.02 - 2.01	

4. System firmware versions are displayed.

ANT: PCU Firmware version, STABILIZER Firmware version, Library version ACU: MAIN Firmware version, MODEM Firmware version, Gyro Firmware version

PC CONTROLLER SOFTWARE

Introduction

PC to ACU Communication Setup

Main Menu

Controller Menus

Position & Manual Search Tracking Information of Current Satellite Tracking Information of Library Version, Tracking Parameter & Block Zone Diagnosis, Search Parameter & Sensor Adjust
Introduction

The PC Controller Software of Intellian v60 has been created for the user to easily set up the antenna by using the user's personal computer.





PC to ACU Communication Setup

Enter "Communication Information" menu to setup the data communication between the PC and the ACU.

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Establish a data communication

Intellian V-Series PC Controller Ver 1.24		
Position (GPS, Headng, Bow) & Manual Search Tracking Information of Current Satellite Tracking Information of Library Version, Tracking Parameter & Block Zone Diagnosis, Search Parameter & Sensor Adjust Communication Information	Serial Communication 19200 ▼ COM 2 C COM1 C COM5 C COM5 C COM2 C COM6 C COM7 C COM4 C COM6 C COM6	Network Communication
Restart Search 1 Signal Level Setup Search 2 Get Ant Info. Search 3 Factory Setting Tracking Backup Setup Backup Comm. Restore Product Ant Product Ant Product Act	Disconnect Disconnect Modem Port Set Device Use Mediator C YES € NO Modem IVO Console ▼ Use Modem Use Modem Console ▼ Set Device	Select Communication Select Communication Network Communication GPS Out GPGLL Sentence Use TX Mute © YES © NO TX Mute © Low © High Modem Lock © Low © High

- Access ACU through Serial Communication
- Connect a 9 pin serial cable from the PC INTERFACE connector on the ACU to the 9-pin serial port on the PC. Use USB-Serial Adapter if there is no 9-pin serial port on the PC.
- Execute PC Controller Software by inserting the supplied CD-ROM into the CD-ROM drive of the PC.
- The baud rate of the ACU is 19200.
- Select a COM port which is not occupied by other devices.
- Click Connect button

• Access ACU through Network Communication

- Turn off wireless connection while using this method.
- Execute PC Controller Software by inserting the supplied CD-ROM into the CD-ROM drive of the PC.
- Enter the ACU's IP address (Factory default IP: 192.168.0.223)
- Enter the ACU's port number (Factory default port: 4002)
- Click Connect button

NOTE: If the remote access PC is located in the same network group with the ACU, the ACU can be accessed through the internal IP address. But, if the remote access PC is located at the outside of network group, the ACU's IP address should be changed by the IP address assigned by the network service provider. Refer to page 104 for changing the ACU's IP address.



WARNING: The data volume will grow very quickly if Network Communication is in use. Intellian recommends to use Remote Web Access to access the ACU (refer to page 86).

74

• Enable the Usage of External Lock & TX Mute

- Connect a RJ45 cable from the Ethernet connector on the ACU to the modem or connect a 9 pin serial cable from the RS232/422 connector on the ACU to the modem.
- Select a proper data communication port (RS232/422 / Ethernet) to interface with a modem.
- Select a proper communication protocol (I/O Console / OpenAMIP / Serial GPS) to interface with a modem.
- Enable / disable the usage of TX MUTE function.
- TX Mute is a transmit inhibit output from the ACU to disable/mute the modem transmit through a 5 V (HIGH) or 0 V (LOW) current whenever the antenna is blocked, searching, or is mis-pointed 0.5 degrees from peak satellite position. This item will only be activated when the modem protocol is set as I/O Console.
- Enable/disable the usage of External Lock function. This function will only be activated when the modem protocol is set as I/O Console.
- Modem Lock is referred that modem lock output from the modem provides a logic input through a 5 V (HIGH) or 0 V (LOW). current to the ACU to identify when it is on the correct satellite. This item will only be activated when the modem protocol is set as I/O Console.
- Select GPS Out Sentence Type
- Select GPS OUT SENTENCE type (GPGLL / GPGGA / Simple GPGGA)

Main Menu

Main menu

Position (GPS,	Headng, Bow) & M	anual Search	- Serial Communication	Network Communication
Tracking Inform Tracking Inform Version, Tracki Diagnosis, Sea Communication	ation of Current S ation of Library ng Parameter & B irch Parameter & Information	atellite lock Zone Sensor Adjust	19200 ▼ COM 2 C COM1 C COM5 € COM2 C COM6	IP 192.168.0.223 Port 4002
			C COM3 C COM7	Connect
Restart	Status Search 1	Local Freq. : MHz Signal Level	С СОМ4 С СОМ8	Select Communication
Setup	Search 2	DVB	Disconnect	 Serial Communication Network Communication
Get Ant Info.	Search 3			
Factory Setting	Tracking	Enable Mode	Modem Modem Port RS 232	GPS Out GPGLL
Save Satellite	Initialize	Pointing	Set Device	Set Sentence
Backup	 Setup Comm. 	Modem Lock	Use Mediator O YES NO	Use TX Mute YES NO
Restore	Product Ant	Product ACU	Modem I/O Console	TX Mute ⊕ Low ○ High
Reboot			Use Modem @ YES C NO	Modern Lock @ Low C High
Intellian Technologie	es		Lock Set Protocol	Set Active

Controller Menus

- Position (GPS, Heading, Bow) & Manual search

- Tracking Information of Current Satellite
- Tracking Information of Library
- Version, Tracking Parameter & Block Zone
- Diagnosis, Search Parameter & Sensor Adjust
- Communication Information

• Command Buttons

- Restart: Exit SETUP mode and restart antenna.
- Setup: Enter SETUP mode.
- Get Antenna Information: Obtain the information stored in the antenna.
- Factory Setting: Reset the antenna back to factory default settings.
- Save Satellite: Save the current settings if they are able to locate the satellite (in Tracking mode). It can reduce the satellite acquisition time after restarting the system.
- Backup: Backup antenna information to ACU / PC.
- Restore: Restore the antenna by using saved information in ACU / PC.
- Reboot: Reboot the antenna.

Backup Position

Restore Position

Back Up Position	$\overline{\mathbf{X}}$	Restore Position	X
ACU To PC To Cancel	o backup antenna information to ACU o backup antenna information to PC	ACU PC Cancel	To restore the antenna by using saved information in ACU To restore the antenna by using saved information in PC

In "SETUP" mode, "Back Up Position" or "Restore Position" message will pop up if "Backup" or "Restore" button is pressed. Backup File (*.ibf) and Report File (*.rpt) will be generated on the PC if "Back Up to PC" button is pressed. You can open a report file using notepad software.

NOTE: These two functions are only available for ACU Version 1.07 or later.

- Status
- Search 1: A search pattern 1 will automatically be initiated when the ship's heading input does not exist or is failed. The search cycle will repeat until the antenna receives the lock signal from the modem or the DVB transponder of the target satellite is decoded by the antenna.
- Search 2: Search 2 is reserved for future use.
- Search 3: Search 3 is a search pattern 3 will automatically be initiated when AGC
 / SIG falls below the current tracking level threshold value. Once the desired signal is found and above the predefined tracking threshold, the ACU will enter to tracking mode.
- Tracking: Antenna is tracking the target satellite.
- Initialize: Antenna or ACU is initializing.
- Setup: Antenna is in SETUP mode.
- Comm: Antenna is able to be communicated.

Local frequency

- Local freq: Display LNB local oscillator frequency.
- Signal level: Display signal level. It shows "DVB" when DVB mode of tracking signal is chosen to be used and "NBD" when NBD mode of tracking signal is chosen to be used.

System versions

- Product ant: Display antenna model and "PCU" firmware version.
- Product ACU: Display ACU model and "ACU main" firmware version.

• TX enable:

- TX enable: TX function is enabled and ready to transmit.
- Enable mode: Not in SETUP mode.
- Blockage: Antenna is not facing the predefined block zone(s).
- Pointing: Antenna is pointing to the target satellite.
- Modem lock: Satellite modem is sending a logic input to the ACU to identify when the antenna tracks on the correct satellite.
- LNB rotate: LNB is not rotating.

NOTE: The TX function will be enabled (shows blue dot) only if all of the factors listed above shows "blue" dot. If any of the factors listed above shows "gray" dot or "red" dot, the TX function will be disabled (shows red dot).

Exception: If "Use TX Mute" is set as "NO", the TX function will be enabled regardless of which factor listed above shows "gray" dot or "red" dot.

Controller Menus

Position & Manual Search

Set the GPS and ship's heading information to acquire the satellite signal and use move step function to find the satellite signal manually.

teman v-Series PC Controller ver 1.24		
Position (GPS, Headng, Bow) & Manual Search Tracking Information of Current Satellite Tracking Information of Library Version, Tracking Parameter & Block Zone Diagnosis, Search Parameter & Sensor Adjust Communication Information	Antenna Current GPS Longitude 127.07 0 E Latitude 37.22 0 N Heading 0.00 0	Bow Current Bow Offset 0 0 0 Set Bow Offset
Restart Status Local Freq. : MHz Setup Search 1 Signal Level DVB Get Ant Info. Search 3 Tracking TX Enable Factory Setting Tracking Enable Mode	Edit GPS Set GPS Edit Heading Set Heading Heading Device NMEA 4800 Set	Skew Information Satellite - 75.7 0.0 Pol Sensor Calibration
Save Satellite Initialize Blockage Pointing Modem Lock Comm. LNB Rotate Product Ant Product Act Communicate Smarter	Antenna Angle 1 Az EL POL 148.45 45.37 -75.70 Relative AZ 148.45	Antenna Angle 2 Move Step AZ 5 EL 5 POL 1

Antenna Current GPS

- Antenna Current GPS: Display current antenna GPS and Ship's heading information.
 Enter SETUP mode and click check box in front of Edit GPS / Edit Heading to set GPS / ship's heading. After the desired value is entered press Set GPS / Set Heading button to save the settings.
- Set GPS: Set antenna GPS information manually.
- Set Heading: Set ship's heading information manually.

Heading Device

 Heading Device: Set ship's heading device and its baud rate (4800/ 9600/ 19200/ 38400).

Antenna Angle 1

- Antenna Angle 1: Display current antenna absolute and relative AZ (azimuth) position, EL (elevation) position and LNB pol angle.

Bow

- Bow: Display and set bow offset if needed.

Skew Information

- LNB pol Information: Display LNB pol angle and satellite skew angle.
- Pol sensor calibration: Calibrate the sensor (potentiometer).

Antenna Angle 2

- Antenna Angle 2: Move antenna azimuth and elevation position and LNB pol angle to find the desired satellite manually.

Antenna angle, GPS and ship's heading information

Tracking Information of Current Satellite

Set the tracking mode and tracking frequency of the current satellite. Set the LNB local frequency to its corresponding voltage power supply.



Satellite Information

 Satellite information: Display the current satellite name, longitude position and satellite skew.

Tracking Common Info

- Local Frequency & LNB Power: Display the current LNB frequency which is in use and its corresponding voltage power supply.
- Tracking: Display/ set the current tracking mode (DVB/ NBD).
- RX POL and TX POL: Set RX and TX polarity (Vertical/Horizontal).

DVB

 DVB: Set satellite tracking information (Frequency, Symbol rate, NID and Verify type) for DVB tracking mode.

NBD

NBD: Set satellite tracking information (Frequency and bandwidth) for NBD tracking mode.

Local Frequency

 Local frequency: Display or set LNB local frequency and its corresponding LNB power supply.

NOTE: Select the Swedish Microwave (SMW) PLL LNB type from the Drop-Down List. If the LNB type is other than SMW, manually input the LNB local frequency is required.

Set the current satellite tracking information

Tracking Information of Library

Open the pre-programmed satellite library file and upload it to the ACU. Build your own custom library and save it to an external hard drive/PC.

Library information

Intellian V-Series PC Controller Ver 1.24	
Position (GPS, Headng, Bow) & Manual Search Tracking Information of Current Satellite Tracking Information of Library Version, Tracking Parameter & Block Zone Diagnosis, Search Parameter & Sensor Adjust Communication Information	Get Data From ACU Satellite List ITLSAT9 / 58.0 W ▼ Load Satellite Name ITLSAT9 Longitude 58.0 • W ▼ Skew 0.0 Local Frequency 13V + 0KHz 13V + 0KHz 18V + 22KHz 18V + 0KHz 18V + 22KHz 13V + 0KHz 13V = 0 13750 C 13750 C
Restart Status Local Freq. : MHz Setup Search 1 Signal Level DVB Get Ant Info. Search 3 Tracking TX Enable Save Satellite Initialize Blockage Pointing Backun Setup Media Media	Tracking Common Info. DVB Tracking Common Info. DVB Tracking Common Info. DVB RX POL Horizontal I TX POL Vertical I
Restore Product Ant Product ACU Reboot Intellian Communicate Smarter	Ubrary NBU Edit Library Open Library from PC Freq.{KHz_IF} B/W(KHz) Edit Library UpLoad Lib to ACU 1410000 1000 Add Library Save Library to PC Base Local : 10750 MHz Delete Library

.....

Get data from ACU

- Get data from ACU: Obtain the pre-programmed satellite library file from the ACU while the antenna is in SETUP mode.

Load Satellite

- Load satellite: Upload the pre-programmed satellite information in the library.

Library

- Open library from PC: Open the satellite library file from the supplied Intellian CD or from the external hard drive/PC. (File format: *.ilf)
- Upload library to ACU: Upload the satellite library file to ACU.
- Save library to PC: Save the current library setting to the PC.
- Edit Library: Edit the satellite information of the selected satellite.
- Add Library: Add the satellite information as defined in the current settings.
- Delete Library: Delete the selected satellite from the library settings.

NOTE: It is required to click the "Save Library to PC" button after "Edit Library", "Add Library ", or "Delete Library" button is clicked. These functions are only available for ACU Version 1.07 or later.

Version, Tracking Parameter & Block Zone

Display the antenna, ACU firmware versions and serial number. Setup the antenna blockage zone(s). Setup the antenna parameters.

			· · · · · · · · · · · · · · · · · · ·	•••••
Display antenna versions	Intellian V-Series PC Controller	Ver 1.24	_	
and tracking parameters	Position (GPS, Headng, Bow) & Tracking Information of Current Tracking Information of Library Version, Tracking Parameter & Diagnosis, Search Parameter & Communication Information	Manual Search Satellite Block Zone Sensor Adjust	Software Information PCU PCU Stabilizer Library Version Modem PCU Note the set of the se	
	Restart Status Setup Search 1 Get Ant Info. Search 3 Factory Setting Tracking	Local Freq. : MHz Signal Level DVB	Product Information Antenna Size Voltage Tracking Level Tracking Level Antenna Serial ACU Serial Threshold 50 Set Parameters	
	Save Satellite	Blockage Pointing	Block 2 Deck 3 Deck 4 Deck 5	
	Backup Bestore	Modem Lock LNB Rotate	AZ Start 0 0 0 0 0 0	Set
	Reboot Product Ant	Product ACU	AZ End 0 0 0 0 2	ock one
	Intellian Technologies Communicato Smarter		EL 90 90 90 90 90	

Software Information

- Software information: Display antenna and ACU firmware versions and library version.

Product Information

- Product information: Display antenna and ACU serial numbers.

Parameter Setting

- DVB: Display /setup current detect level threshold and tracking level threshold when DVB tracking mode is chosen to be used.
- NBD: Display /setup current detect level threshold and tracking level threshold when NBD tracking mode is chosen to be used.
- TX Enable Threshold: display/ setup TX enable threshold.

Block Zone

- Display current block zones by azimuth and elevation sectors. Up to 5 blockage zones can be programmed.

NOTE: DVB and NBD parameter settings should only be changed by an authorized service technician. Improper setting of these parameters will render your system inoperable. Consult Intellian for changing antenna parameters.

Diagnosis, Search Parameter & Sensor Adjust

Set the tilt sensors and calibrate rate sensors. Set the antenna search parameters. Run an antenna diagnostic test.

Display antenna versions and parameters



Tilt Sensor Bias

- Tilt sensor bias: Adjust the two solid-state tilt sensors used to provide absolute cross-level tilt of the antenna and elevation feedback to eliminate long-term pointing drift (error). Tilt bias is required to be adjusted when the antenna control board or sensor box is replaced. Check and see if the bubble is located at the center of the level vial.
- Ready: Make elevation angle go to 0° for tilt sensor bias adjustment.

Conical Range

- Conical rage: set conical range while the antenna is on tracking mode.

EL Adjust

- EL adjust: The elevation adjustment is to offset the angle difference between the mechanical elevation angle and actual elevation angle.

Rate Sensor

- Rate sensor: Rate sensor is to calibrate DC voltage output from the three rate sensors used to sense antenna motion in azimuth, elevation and cross-level axes. The DC voltage output from each of the rate sensors may be vary by an amount which is directly proportional to the direction and rate of motion induced on it.. Before calibrating the rate sensors located at the Sensor box, make sure that the antenna is placed on a rigid and flat platform. During the calibration process, the antenna should avoid any motion as it can affect the antenna's performance. After clicking the "Rate Sensor Bias Check" button, the green dot will be displayed as a ready signal to calibrate the gyro sensor. The red dot (fail) or blue dot (pass) will be displayed once the calibration is completed.

Idle Mode

- Idle mode: Release the elevation and cross level motor brakes while the antenna is in SETUP mode. The antenna can be moved manually during the idle mode.

Diagnosis

 Diagnosis: The system can carry out the selected full diagnostic test "Test All" or single diagnostic test. The software will display the diagnostic results (Blue dot represents "normal", red represents "abnormal", yellow represents "skip test" and green represents "the diagnostic test is under process").

REMOTE WEB ACCESS

Introduction

Main Page

Antenna Settings

General Information Current Status Ship Information Antenna Position Tracking Information Parameter Setting Modem Setting Block Zone Setting Diagnosis Satellite Information

Antenna / ACU Firmware Upgrade

Firmware Upgrade Roll Back Upgrade Log

Ethernet-to-Serial Settings

Network Setting Serial Setting SNMP Setting Change Password Upgrade E2S (Ethernet-to-Serial) Save & Reboot Access Log

Introduction

With embedded remote access function, the v-Series can be monitored, controlled, and diagnosed remotely from anywhere, anytime through the TCP/IP protocol. This not only can save tremendous time but also save the cost generated from the hundreds of routine maintenance activities such as operating firmware upgrades, tracking parameters resets, and system diagnostic.



Main Page

Page Login

 Enter the ACU's IP address into your web browser's address bar to login into the ACU's internal HTML page. If this system has not been changed from the ACU's factory default:

IP address: Primary: 192.168.0.223 / Secondary: 10.10.1.1

- 2. Choose either to Control & Monitor the ACU or Only Monitor the ACU.
- 3. Log into the ACU by typing in User Name and Password information. If this system has not been changed from the factory default:

User Name: intellian / Password: 12345678

Intellian	
Remote Access v1.00	
Control & Monitoring Mornitoring Only Username Password Login Cancel	

	()Cont	rol IP • 192.168.0.223 Current	3 IP 192.168.0.223 Refresh Rate ● 5 (sec) 8 : 45	
In		nna Tracking 5 TX Enal	ble • • • • • • • • • • • • • • • • • • •	
	7 Edit Enable 8 Get A	.nt. Info 9 Restart 10 Setup	1) Save Satellite 2 Backup (3) Restore (4) Logout	
Anten	na	Antenna / Current Status		
Gener	ral Information			
Curre	nt Status	Status		
Ship I	Information	Search1	•	
Anten	ing Information	Search2	•	
Paran	neter Setting	Search3	•	
Moder	m Setting	Tracking	•	
Block	Zone Setting	Initialize	•	
Diagn	osis	Block	•	
Saten		Setup	•	
Eirma	are llograde	Communication	•	
Roll B	ack			
Upgra	de Log			
7)Ethern	et-to-Serial	Common		
Netwo	ork Setting	Local Frequency	11300 MHz	
Serial	Setting	Signal Level	271	
SNMP	Setting			
Chang	ge Password			
No.	Item	Description		
1	Control IP	Display current IP the	at controls the ACU.	
2	Current IP	Display current IP ac	ldress.	
3	Refresh Rate	Display screen refresh rate and time out. The screen will not refresh once the time-out shows 0:00. Exception: If the Refresh Disable Time is set to "OFF" in the Network Setting page, then the clock will show ":" and system will keep monitoring all activities regardless of time- out.		
4	Antenna Status	Display antenna stat	us.	
5	TX Enable	Display whether or no	ot the antenna is able to transmit the data	
6	Signal Level	Display current signa	al level.	
7	Edit Enable	Enable to edit the AC enabled before modi	CU settings. Ensure the check box is fying the settings.	
8	Get Antenna Info	Obtain current anten	na information.	
9	Restart	Restart antenna syst	em.	
10	Setup	Enter SETUP mode.		
(1)	Save Satellite	Save current satellite Bow offset will be ac	e settings. Ijusted and saved automatically.	
(12)	Backup	Backup antenna info	rmation to ACU.	
13	Restore	Restore antenna info	rmation from ACU.	
(14)	Logout	Logout ACU's intern	al HTML page.	
(15)	Antenna	Antenna setup menu		
(16)	Firmware	Firmware upgrade m	enu.	
17	Ethernet-to-Serial	ACU's IP address an	d serial communication setup menus.	

Antenna Settings

General Information

Antenna	Antenna / General Information	
1 General Information		
Current Status	2 Antenna Information	
Ship Information	Antenna Size	60 cm / 24 inch
Antenna Position		
Tracking Information	voltage	21.00 / 26.50
Parameter Setting	Antenna Product	V1-60-03H
Modem Setting	ACU Product	VP-T100
Block Zone Setting	Antenna Serial Number	V610030009
Diagnosis	ACU Serial Number	V610030009
Satellite Information	System Polarization	CROSS-POL
Antenna/ACU Firmware	Tracking Signal	NBD
Firmware Upgrade		
Roll Back		
Upgrade Log	-	
Ethernet-to-Serial	3 Software Information	
Network Setting	Antenna Stabilizer Version	V 5.54
Serial Setting	Antenna PCU Version	V 5.52
SNMP Setting	ACU Main Version	V 1.44
Change Password	ACU Modem Version	V 1.12
Upgrade E2S	ACII Gyro Version	V 1 15
Save & Reboot	Acto Gyro Version	V 1.15
Access Log	Library Version	V 5.00
	4) LNB Local Frequencies(MHz)	
	13V + 0kHz	10000
	13V + 22kHz	10750
	18V + 0kHz	11300
	18V + 22kHz	0

No.	Item	Description	
1	General Information	Display current antenna information.	
2	Antenna Information	 Display current antenna information. Antenna Size: antenna dish size. Voltage: operation voltage of antenna and ACU. Antenna Product: antenna model number. ACU Product: ACU model number. Antenna Serial Number: antenna serial number. ACU Serial Number: ACU serial number System Polarization: antenna polarized feed (Crosspol / Copol). Tracking Signal: satellite tracking mode (DVB/ NBD) 	
3	Software Information	Display current Antenna and ACU firmware versions and Satellite Library version installed in the system. - Antenna Stabilizer Version - Antenna PCU Version - ACU Main Version - ACU Modem Version - ACU Gyro Version - Library Version	
4	LNB Local Frequencies(MHz)	Display LNB local frequency and corresponding voltage.	

Current Status

Anten	na	Antenna / Current Status	
Gene	ral Information		
1 <u>Curre</u>	nt Status	2 Status	
Ship Information		Search1	0
Anter	ina Position	Search2	•
Track	ing Information	Search 3	
Parar	meter Setting	Testile	
Block	Zone Setting	Tracking	•
Diagr	losis	Initialize	0
Satel	lite Information	Block	•
Anten	na/ACU Firmware	Setup	•
Firmy	vare Upgrade	Communication	•
Roll E	Back	-	
Upgra	ade Log	3 Common	
Ethern	et-to-Serial	Local Frequency	11300 MHz
Netw	ork Setting	Signal Level	273 •
Seria	I Setting	~	
SNMP	Setting	(4) TX Enable ●	
Chan	ge Password	Enable Mode	•
Upgra	ade E2S	Blockage	•
Save	& Reboot	Pointing	•
Acces	ss Log	Modem Lock	•
		LNB Rotate	•
No.	Item	Description	
1	Current Status	Display current ante	enna status.
2	Status	 Search 1. a search pattern 1 will automatically be initiate when the ship's heading input does not exist / is failed. T search cycle will repeat until the antenna receives the loc signal from the modem or the DVB transponder of the ta satellite is decoded by the antenna. Search 2: is reserved for future use. Search 3: a search pattern 3 will automatically be initiate when AGC / SIG falls below the current tracking level threshold value. Once the desired signal is found and ab the predefined tracking threshold, the ACU will enter to tracking mode. Tracking: antenna is tracking the target satellite. Initialize: antenna or ACU is initializing. Block: satellite signal is being blocked. Setup: antenna is in SETUP mode. 	
3	Common	Display current LNE	local frequency and signal level.
 Display whether or not the antenna is able to transdata. The TX function will only be enabled (shows only if all of the factors listed below shows "BLUE" Exception: If "Use TX Mute" is set as "NO", the TX will be enabled regardless of which factor listed be" "gray" dot or "red" dot. TX Enable TX Enable Enable Mode: antenna is not in SETUP mode. Blockage: antenna is not facing the predefined b Pointing: antenna is pointing to the target satellit Modem Lock: satellite modem is sending a logic the ACU to identify when the antenna tracks on t satellite. 		not the antenna is able to transmit the on will only be enabled (shows BLUE dot) ors listed below shows "BLUE" dot. "X Mute" is set as "NO", the TX function ardless of which factor listed below shows dot. enna is not in SETUP mode. a is not facing the predefined block zone(s). is pointing to the target satellite. ellite modem is sending a logic input to y when the antenna tracks on the correct is not rotating.	

Ship Information

Antenna	Antenna / Ship Information	
General Information		
Current Status	2 gps	
1 Ship Information	Lengitude(8)	127.04
Antenna Position	Longitude(*)	
Tracking Information	Latitude(°)	37.07 N 🗘
Parameter Setting	Set GPS	
Modem Setting		
Block Zone Setting		
Diagnosis		
Satellite Information	3 BOW Offset	
Antenna/ACU Firmware	Current Bow Offset(°)	0
Firmware Upgrade		
Roll Back	Set Bow Offset	
Upgrade Log		
Ethernet-to-Serial	-	
Network Setting	4 Heading Device	
Serial Setting		NMEA 🗘
SNMP Setting	Current Device	Set Device
Change Password		
Upgrade E2S	Heading	328.19
Save & Reboot		Set Heading
Access Log		

No.	Item	Description
1	Ship Information	Display GPS and ship's gyro information.
2	GPS	Display current GPS information. - Longitude (East / West) - Latitude (North / South)
3	BOW Offset	Display and set bow offset if needed.
4	Heading Device	Current device: set ship's heading device. If the ship's gyro input is Step-by-step (SBS) separate purchase of GYRO Converter is required. - Heading: set ship's heading information.



WARNING: Ensure the Edit Enable check box is enabled before modifying the settings.

Antenna Position

Antenna	Antenna / Antenna Position		
General Information			
Current Status	2 Current Antenna Position		
Ship Information	Relative Azimuth(°)	230.03	
1 Antenna Position		100.00	
Tracking Information	Absolute Azimuth(*)	198.00	
Parameter Setting	Elevation(°)	44.37	
Modem Setting	LNB Pol Angle(°)	-87.00	
Block Zone Setting	Heading(°)	327.97	
Diagnosis			
Satellite Information			
Antenna/ACU Firmware	3 Manual Movement		
Firmware Upgrade	<u> </u>		
Roll Back	Azimuth Angle(°)	◀ 5.00 ►	
Upgrade Log	Elevation Angle(°)	▼ 5.00 ▲	
Ethernet-to-Serial			
Network Setting	LNB POI Angle(*)	¥ 5.00	
Serial Setting			
SNMP Setting			
Change Password	(4) LNB Pol Sensor Calibration		
Upgrade E2S	<u> </u>		
Save & Reboot	Pol Sensor Calibration	0	
Access Log			

No.	Item	Description
1	Antenna Position	Display current antenna position.
2	Current Antenna Position	 Display current antenna position. Relative Azimuth: display antenna relative AZ angle. Absolute Azimuth: display antenna absolute AZ angle. Elevation: display antenna elevation angle. LNB Pol Angle: display LNB pol angle. Heading: display ship's heading information.
3	Manual Movement	Move antenna azimuth and elevation angles and LNB pol angle to find the desired satellite manually.
4	LNB Pol Sensor Calibration	Calibrate the LNB pol angle when the control board, potentiometer or belt is replaced.

Tracking Information

Antenna	Antenna / Tracking Informatio	
General Information		
Current Status	2 Local Frequency Setting(MH	z)
Ship Information	13V + 04Hz	10000
Antenna Position	137 + 0812	
1 Tracking Information	13V + 22kHz	10750
Parameter Setting	18V + 0kHz	11300 💿
Modem Setting	18V + 22kHz	0
Block Zone Setting		
Diagnosis	Set Local Freq (MHz)	
Satellite Information		
Antenna/ACU Firmware	3 Tracking Satellite	
Firmware Upgrade	Satellite	KOREA3CS
Roll Back	Longitude(°)	116.0 E \$
Upgrade Log	Skew Offset(°)	11.0
Ethernet-to-Serial		DVB
Network Setting	Tracking Method	O NBD
Serial Setting	RX Polarization	Horizontal
SNMP Setting	The Designation of the second se	
Change Password	TX Polarization	Vertical
Upgrade E2S	A DVB Information	
Save & Reboot		
Access Log	Frequency(MHz)	12490
	Symbol(kHz)	27490
	NID	0x 00AD
	Verify Type	DVB Decode
	5 NBD Information	
	Frequency(kHz_IF)	1745000
	Bandwidth(kHz)	1000
	Base Local	11300 MHz

No.	Item	Description
1	Tracking Information	Display or set current tracking mode and tracking frequency of the target satellite.
2	Local Frequency Setting (MHz)	Display LNB's local frequencies. Display current LNB local frequency which is in use and voltage.
3	Tracking Satellite	 Display current tracking mode. Satellite: display satellite name. Longitude: display satellite orbit position. Skew Offset: display Skew offset. Tracking Method: display current tracking mode (DVB/ NBD). RX Polarization: display current RX polarization. TX Polarization display current TX polarization.
4	DVB Information	Display DVB tracking mode's tracking information. - Frequency: display tracking frequency. - Symbol rate: display symbol rate. - NID: display network ID. - Verify type: display verification type (AGC, DVB, DVB Decode)
5	NBD Information	Display NBD tracking mode's tracking information. - Frequency: display tracking IF frequency. - Bandwidth: display detection bandwidth.



WARNING: Ensure the Edit Enable check box is enabled before modifying the settings.

Parameter Setting

Antenna	Antenna / Parameter Setting	
General Information		
Current Status	2 Search & Tracking Parameter Set	ting
Ship Information	DVR Detect avel Threehold	40
Antenna Position	DVB Detect Level Inreshold	40
Tracking Information	DVB Tracking Level Threshold	20
1 Parameter Setting	NBD Detect Level Threshold	40
Modem Setting	NBD Tracking Level Threshold	20
Block Zone Setting		
Diagnosis	Tx Enable Threshold	0
Satellite Information	Wait Time(s)	0
Antenna/ACU Firmware	Search Step(°)	0.00
Firmware Upgrade	Search 1 Pange(%)	Azimuth 0
Roll Back	Seater 2 Mangel /	Elevation 0
opgrade Log		Azimuth 0
Ethernet-to-Serial	Search 2 Range(°)	Elevation 0
Network Setting		
Serial Setting	Search 3 Range(°)	
SNMP Setting		Elevation 0
Change Password	Set Parameters	
Upgrade E2S		
Save & Reboot		
Access Log		
	3 Tilt Sensor Bias	
		Ready
	Tilt Sensor	Elevation
		Cross Level
	Step(°)	▼ 1.00 ▲
	Elevation Adjust	
	EL Adjust(°)	0.0
	Set EL Adjust	
	5 Conical Range	
	Azimuth	0
	Elevation	0
	Set Bange	
	6 Rate Sensor Adjust	
	_	
	Rate Sensor Calibration	
	Idle Mode	
	8 Reboot	
	\sim	
	Reboot	
WARNING: Ensure	the Edit Enable check box is a	enabled before modifying the settings
		second second meanying the bottings.



No.	Item	Description
1	Parameter Setting	Set antenna search & tracking parameters. These parameters should only be changed by an authorized service technician. Improper setting of these parameters will render your system inoperable.
2	Search & Tracking Parameter Setting	 DVB Detect and Tracking Level Threshold: display / set current detect level threshold and tracking level threshold when DVB tracking mode is chosen to be used. NBD Detect and Tracking Level Threshold: display / set current detect level threshold and tracking level threshold when NBD tracking mode is chosen to be used. Enable Threshold: display / set TX enable threshold. Wait time: set the time-out for automatic initiation of a search after the signal level drops below the pre-defined threshold value. Search Step: set increment step size. Search 1 & 3 Range: set Search 1 & 3 search range. Search is conducted in a two-axis pattern consisting of alternate movements in azimuth and elevation as forming expanding square. Search 2 Range: is reserved for future use.
3	Tilt Sensor Bias	Adjust the two solid-state tilt sensors used to provide absolute cross-level tilt of the antenna and elevation feedback to eliminate long-term pointing drift (error). Tilt bias is required to be adjusted when the antenna control board or sensor box is replaced. Check to see whether or not the bubble is located at the center of the level vial.
4	Elevation Adjust	Adjust the angle difference between the mechanical elevation angle and actual elevation angle.
5	Conical Range	Set conical range while the antenna is on tracking mode.
6	Rate Sensor Adjust	Calibrate DC voltage output from the three rate sensors used to sense antenna motion in azimuth, elevation and cross-level axes. During the calibration process, the antenna should avoid any motion as it can affect the antenna's performance.
7	Idle Mode	Release the elevation and cross level motor brakes while the antenna is in SETUP mode. The antenna can be moved manually during the idle mode.
8	Reboot	Reboot the system.

Modem Setting

Antenna	Antenna / Modem Setting	
General Information		
Current Status	2 Modem	
Ship Information	<u> </u>	PC222
Antenna Position	Modem Port	K3232
Tracking Information		Set Device
Parameter Setting		GPGLL \$
1 Modem Setting	GPS Out Sentence	Set Sentence
Block Zone Setting		
Diagnosis		
Satellite Information	-	
Antenna/ACU Firmware	3 Protocol	
Firmware Upgrade	Use Mediator	YES
Roll Back		NO
Upgrade Log	Modem Protocol	I/O Console 🛊
Ethernet-to-Serial	Use Modem Lock	YES
Network Setting		NO
Serial Setting	Set Protocol	
SNMP Setting		
Change Password		
Upgrade E2S		
Save & Reboot	(4) Active	
Access Log	Use TX Mute	YES NO
	TX Mute	HIGHLOW
	EXT Lock	→ HIGH→ LOW

No.	Item	Description
1	Modem Setting	Set the modem interface.
2	Modem	 Modem Port: select a proper data communication port (RS232/ 422/ Ethernet) to interface with a modem. GPS Out Sentence: select GPS out sentence type (GPGLL/ GPGGA/ Simple GPGGA).
3	Protocol	 Use Mediator: enable the usage of Mediator if the antenna is connected to the Intellian dual VSAT Mediator. Use Mediator must be set to "NO" if there is no MEDIATOR connected to the ACU. Improper setting of this parameter will cause your ACU's modem interface working incorrectly. Modem Protocol: select a proper communication protocol on the ACU to interface with the modem. (I/O Console, OpenAMIP, Serial GPS) Use Modem Lock: select whether or not to use external lock signal from the satellite modem. Use Modem Lock will only be activated when modem protocol is set as I/O Console.
4	Active	 Use TX Mute: select whether or not to USE TX MUTE function from the satellite modem. A transmit inhibit output from the ACU will disable/ mute the modem transmit via a voltage whenever the antenna is blocked, searching, or is mis-pointed 0.5 degrees from the peak satellite position. TX Mute: TX Mute is a transmit inhibit output from the ACU to disable / mute the modem transmit through a 5 V (HIGH) or 0 V (LOW) current whenever the antenna is blocked, searching, or is mis-pointed 0.5 degrees from peak satellite position. TX Mute will only be activated when modem protocol is set as I/O console. EXT Lock: is the modem lock output from the modem provides a logic input through a 5 V (HIGH) or 0 V (LOW) current to the ACU to identify when it is on the correct satellite. EXT. Lock will only be activated when modem protocol is set as I/O Console.



WARNING: Ensure the Edit Enable check box is enabled before modifying the settings.

Block Zone Setting

Anten	na	Antenna / Block Zone Setting	
Gene	ral Information		
Curre	nt Status	2) Block Zone	
Ship I	Information	C Black 4 C Black 9 C Black 9 C Black 4 C Black 5	
Anten	ina Position	BIOCK 1 BIOCK 2 BIOCK 3 BIOCK 4 BIOCK 5	
Track	ing Information	AZ Start(°) 0 0 0 0	
Paran	neter Setting	AZ End(°) 0 0 0 0	
Mode	m Setting		
1 Block	Zone Setting		
Diagn	osis	Set Block Zone	
Satell	ite Information		
Anten	na/ACU Firmware		
Firmw	vare Upgrade		
Roll B	lack		
Upgra	ade Log		
Ethern	et-to-Serial		
Netwo	ork Setting		
Seria	Setting		
SNMP	Setting		
Chang	ge Password		
Upgra	ade E2S		
Save	& Reboot		
Acces	is Log		
No.	Item	Description	
1	Block Zone Setting	Up to 5 block zones are allowed to be programmed.	
2	Block Zone	This is the clockwise of the two points. AZ. START is where the relative azimuth starts and AZ. END is where the relative azimuth ends (Range: $0 - 360^{\circ}$). EL. Limit is where the elevation starts (Range $0 - 90^{\circ}$).	

Diagnosis

Antenna	Antenna / Diagnosis	
General Information		
Current Status	2 Diagnosis	
Ship Information	<u> </u>	
Antenna Position	 Serial Comm. 	C • LNB
Tracking Information	 Motor AZ 	O • SKEW
Parameter Setting	C . Matar El	C Sub Deflector
Modem Setting	C • MOTOFEL	 Sub-Reflector
Block Zone Setting	 Motor CL 	 Antenna Power
Diagnosis	 Encoder AZ 	 ACU Power
Satellite Information	C a Facadar Cl	C Bossiver Connection
Antenna/ACU Firmware		
Firmware Upgrade	 Rate Sensor 	
Roll Back	C	
Upgrade Log	 Sensor Box Limit 	C Test ALL
Ethernet-to-Serial	Diamania	
Network Setting	Diagnosis	
Serial Setting		
SNMP Setting		
Change Password		
Upgrade E2S		
Save & Reboot		
Access Log		

No.	Item	Description
1	Diagnosis	Execute antenna diagnostic test.
0	Diagnosis	 Select to run a full diagnostic test or single diagnostic test. Serial Comm.: test the data communication between the antenna and the ACU. Motor AZ: test the azimuth motor. Motor CL: test the elevation motor. Motor CL: test the cross-level motor. Encoder AZ: test the azimuth encoder. Gyro Senor: test the cross-level encoder. Gyro Senor: test the gyro sensor. Tilt Sensor: test the tilt sensor. Sensor Box Limit: test the sensor box motor. LNB pol: test the LNB. LNB pol: test the LNB pol motor. Sub-Reflector: test the sub-reflector. (Skip for v-Series communication products) Antenna Power: test the ACU power. Receiver Connection: test the receiver power. (Skip for v-Series communication products)



WARNING: Ensure the Edit Enable check box is enabled before modifying the settings.

Satellite Information

Antenna	Antenna / Satellite Information	
General Information		
Current Status	2 Get Satellite Info. From ACU	
Ship Information		
Antenna Position	3 Load Satellite	
Tracking Information	() (Load Satellite
Parameter Setting		
Modem Setting		
Block Zone Setting		
Diagnosis	4 Tracking Satellite	
1) Satellite Information	Satellite	
Antenna/ACU Firmware	Longitude(°)	0.0 E \$
Firmware Upgrade	2019.000()	
Roll Back	Skew Offset(°)	0.0
Upgrade Log	Tracking Method	O DVB
Ethernet-to-Serial		NBD
Network Setting	RX Polarization	Vertical 🔷
Serial Setting	TX Polarization	Vertical 🗘
SNMP Setting		
Change Password		
Upgrade E2S		
Save & Reboot	5 DVB Information	
Access Log	Frequency(MHz)	0
	Symbol(kHz)	0
	NID	0x 0000
	Verify Type	ACG Only \$
	-	
	6 NBD Information	
	Frequency(kHz_IF)	0
	Bandwidth(kHz)	0
	Base Local	0 MHz
	7 Local Frequency Setting(MHz)
	13V + 0kHz	10000
	13V + 22kHz	10750
	18V + 0kHz	11300
	18V + 22kHz	0

No.	Item	Description
1	Satellite Information	Display the satellite library information.
2	Get Satellite Info from ACU	Obtain satellite information installed in the ACU.
3	Load Satellite	Select satellite that you wish to track and press Load button to load the selected satellite.
4	Tracking Satellite	 Satellite: display satellite name. Longitude: display satellite orbit position. Skew offset: display Skewoffset. Tracking method: display current tracking mode (DVB/ NBD). RX polarization: display current RX polarization. TX polarization display current TX polarization.
5	DVB Information	 Display DVB tracking mode's tracking information. Frequency: display tracking frequency. Symbol rate: display symbol rate. NID: display network ID. Verify type: display verification type (AGC only, DVB lock, DVB decode, DSS decode)
6	NBD Information	Display NBD tracking mode's tracking information. - Frequency: display tracking frequency. - Bandwidth: display detection bandwidth.
7	Local Frequency Setting	Display LNB local frequency (MHz) and voltage.

Antenna/ ACU Firmware Upgrade

Firmware Upgrade

Antenna	Firmware / Upgrade
General Information	
Current Status	New Firmware
Ship Information	
Antenna Position	Browse and select the firmware file to upload.
Tracking Information	Choose File no file selected
Parameter Setting	The undetermountake a few minutes to complete
Modem Setting	The upload time may vary due to a variety of factors such as the speeds of your network.
Block Zone Setting	Upload an incorrect tirmware the may cause serious damage to your antenna and ACU.
Diagnosis	
Satellite Information	Start Upload Cancel
Antenna/ACU Firmware	
1 Firmware Upgrade	
Roll Back	
Upgrade Log	
Ethernet-to-Serial	
Network Setting	
Serial Setting	
SNMP Setting	
No. Item	Description

1	Firmware Upgrade	Upgrade antenna and ACU firmware version. Browse and select the firmware package file to upload.
---	------------------	---

Upgrade Steps

- 1. Select the upgrade package file.
- 2. Click on "Start Upload" button to transfer the Firmware package file ("*.fwp") to E2S (Ethernet to serial) module.



- 3. After the package file is transferred, it'll show "upgrade from vx.xx Version to vx.xx Version". Enable the check box to select the firmware file that you wish to upgrade.
- 4. Click on "Start Upgrade" button.

Firmware upgrade	Antenna	Firmware / Upgrade				
status page	General Information					
	Current Status	The Firmware Package Upgrade Ready	Upgrade Ready			
	Ship Information	Antenna STABILIZER Upgrade From v5.54 To v5.54	1			
	Antenna Position	Antenna DCII III IIIograde From v5 52 To v5 52				
	Tracking Information	Antenna PCO Opgrade Prom V5.52 TO V5.52	đ			
	Parameter Setting	ACU MAIN Upgrade From v1.44 To v1.44				
	Modem Setting	ACU MODEM Upgrade From v1.12 To v1.12				
	Block Zone Setting	ACU GYRO Upgrade From v1.15 To v1.15				
	Diagnosis					
	Satellite Information	Start Upgrade Sele	Select All			
	Antenna/ACU Firmware					
	Firmware Upgrade					

5. It'll display information about the upgrade process status on full screen.

The Firmware Package v10	1025 Upgrade Status	
Antenna STABILIZER	Upgrade From v5.54 To v5.54	Success
Antenna PCU	Upgrade From v5.52 To v5.52	Success
ACU MAIN	Upgrade From v1.44 To v1.44	Success
ACU MODEM	Upgrade From v1.12 To v1.12	Success
ACU GYRO	Upgrade From v1.15 To v1.15	50%

- 6. If the firmware is successfully upgraded, it'll display "The firmware update is completed."
- 7. Click on "Back to main page" to go out of the screen. To verify the upgraded firmware version, go to the right-side menu of "General information"

Upgrade	The Firmware Package v101025 Upgrade Complete
complete page	Antenna STABILIZER "5.54" "Success" Antenna PCU "5.52" "Success" ACU MAIN "1.44" "Success" ACU MODEM "1.12" "Success" ACU GYRO "1.15" "Success"
	The firmware update is completed. If you receive an fail message, please try again. Please refer to the User Guide if you have trouble connecting to the antenna.
	Back to main page

Roll Back

Anten	na	Firmware / Rollback		
Gene	ral Information			
Curre	ent Status	Rollback Upgrade		
Ship	Information			
Anter	nna Position		Antenna STABILIZER V5.54 Antenna PCU v5.52	
Track	ing Information	Previous Package Version v101025	ACU Main v1.44 Rol	lback
Parar	meter Setting		ACU MODEM v1.12	
Mode	m Setting		ACUGIRO VI.15	
Block	Zone Setting		Antenna STABILIZER v5.54	
Diagr	nosis	Latest Backage Version v101025	Antenna PCU v5.52 ACLI Main v1.44	lback
Satel	lite Information	Latest Package Version VI01025	ACU MODEM v1.12	Dack
Anten	na/ACU Firmware		ACU GYRO v1.15	
Eirmu	vara Unarada		Antenna STABILIZER v5.54	
	vare opgrade		Antenna PCU v5.52	
	заск	Current Firmware Version	ACU Main v1.44	
Upgra	ade Log		ACU GYRO v1.15	
Ethern	net-to-Serial			
Netwo	ork Setting			
Seria	l Setting			
SNMP	Setting			
Chan	ge Password			
Upgra	ade E2S			
Save	& Reboot			
Acces	ss Log			
No.	Item	Description		
1	Roll Back	Roll back antenna and ACU fir or latest package version.	mware to previous package ve	rsion

Upgrade Log

Antenna						
General Information						
Current Status	Date/Time	STAB	PCU	Main	Modem	Gyro
Ship Information		"5 54"	"5 52"	"1 44"	"1.12"	"1.15"
Antenna Position	"Wed, 27 Oct 2010 05:56:28"	"Success"	"Success"	"Success"	"Success"	"Success"
Tracking Information	"Wed. 27 Oct 2010 08:23:25"	"5.54"	"5.52"	"1.44"	"1.12"	"1.15"
Parameter Setting	wea, 27 Set 2010 08:23:25	"Fail"	"Fail"	"Fail"	"Fail"	"Fail"
Modem Setting	"Wed, 27 Oct 2010 08:25:51"	"5.54"	"5.52" "Enil"	"1.44"	"1.12"	"1.15" "Eail"
Block Zone Setting		rain	rain	rail	Pall	rall.
Diagnosis						
Satellite Information						
Antenna/ACU Firmware						
Firmware Upgrade						
Roll Back						
Upgrade Log						
Ethernet-to-Serial						
Network Setting						
Serial Setting						
SNMP Setting						
Change Password						
Upgrade E2S						
Save & Reboot						
Access Log						
· · · · · · · · · · · · · · · · · · ·						
No. Item	Descript	ion				
① Upgrade Log	Display Ic	g inform	nation of	firmwar	e upgrac	le.

Ethernet-to-Serial Settings

Network Setting

Antenna		Ethernet-to-Serial / Network Setting				
General	Information					
Current S	Status	2 Network Configuration				
Ship Info	ormation	Line Type	-	Static ID	Help	
Antenna	Position	Line Type		State II		
Tracking	Information	IP Address		175.195.19.110	Help	
Paramete	er Setting	Subnet Mask		255.255.255.128	Help	
Modem S	Setting	Gateway		175 195 19 126	Help	
Block Zo	ne Setting	eatenay		17511551151120		
Diagnosis	5	DNS	_	168.126.63.1	Help	_
Satellite	Information	3 Network Sevice Configuration				
Antenna/	ACU Firmware	PortView IP / Port		0.0.0.0	/ 4000	Help
Firmware	e Upgrade					
Roll Back	c	Submit Cancel				
Upgrade	Log					
Ethernet-	to-Serial					
1 Network	Setting	4 Browser Configuration				
Serial Se	etting	Refresh Rate(second)		5	Help	
SNMP Se	tting	Refresh Disable Time(minute) 🕅		9	Help	
Change F	Password					
Upgrade	E2S	Submit Cancel				
Save & R	leboot					
Access L	og					
No. I	tem	Description				
(1) N	letwork Setting	Modify ACU's Internal	IP a	ddress.		

1	Network Setting	Modify ACU's Internal IP address.
2	Network Configuration	Modify ACU's Internal IP address and press Submit button. Go to "Save & Reboot" page and press Save & Reboot button to validate the changes. - IP Address: Factory default (Primary: 192.168.0.223) / (Secondary: 10.10.1.1) - Subnet Mask: Factory default (255.255.255.0) - Gateway (modem IP): Factory default (192.168.0.254)
3	Network Service Configuration	Install the PortView software to use this function. Setup the IP address and socket number to the PC installed with PortView software. PortView function will not be activated if the IP address is set to 0.0.0.
4	Browser Configuration	Modify browser refresh rate and refresh disable time. If the check box of Refresh Disable Time is enabled, then Refresh Disable Time function will be activated and system will keep monitoring all activities regardless of time-out.



WARNING: Enter Save & Reboot page and click on "Save & Reboot" button after completing the modification of Ethernet-to-Serial's settings. Without doing so, the modified settings will be lost.

Serial Setting [1]

Antenna	Ethernet-to-Serial / Serial Setting	
General Information		
Current Status	2 Serial Port 1	
Ship Information	Operation Mode	TCB Server
Antenna Position	operation House	
Tracking Information	Interface	RS232 Help
Parameter Setting	Local Socket Port	4001 <u>Help</u>
Modem Setting	Port Alias	Port-01 Help
Block Zone Setting	Baud Rate	9600 bps 🔶 Help
Diagnosis		
Satellite Information	Data Bits	8 bits 🗘 Help
Antenna/ACU Firmware	Stop Bits	1 bit 🔶 Help
Firmware Upgrade	Parity	None 🗘 Help
Roll Back	Elow Control	None A Halp
Upgrade Log		None Y Help
Ethernet-to-Serial	Device Type	Data Only 🗘 Help
Network Setting	Remote IP Address / Port	0.0.0.0 / 4000 <u>Help</u>
1 Serial Setting	KeepAlive Check Time(sec)	0 Help
SNMP Setting	Bypass	Enable 🗘 Help
Change Password	-,,	
Upgrade E2S	3 [1] [2]	
Save & Reboot	Submit Cancel	
Access Log		

No.	Item	Description
1	Serial Setting	Configure Serial port [1] and Serial port [2]
٢	Serial Port [1]	Serial Port [1] is to communicate with an external modem via Ethernet. Follow the below instruction to configure Serial port [1] and press Submit button. Go to "Save & Reboot" page and press Save & Reboot button to validate the changes. - Operation mode: TCP Server - Local socket port: 4001 - Baud Rate: 9600 bps - Data Bit: 8 Bit - Stop Bit: 1 Bit - Parity: None - Flow Control: None The data communication between the modem and the PC may disconnect while setting these parameters.
3	[1][2]	Select to configure Serial port [1] or Serial port [2]

Antenna	Ethernet-to-Serial / Serial Setting	
General Information		
Current Status	2 Serial Port 2	
Ship Information	Operation Mode	TCD Conver A Help
Antenna Position	operation Hode	
Tracking Information	Interface	RS232 Help
Parameter Setting	Local Socket Port	4002 <u>Help</u>
Modem Setting	Port Alias	Port-02 Help
Block Zone Setting	Baud Rate	19200 bos
Diagnosis		
Satellite Information	Data Bits	8 bits 💠 Help
Antenna/ACU Firmware	Stop Bits	1 bit 🗘 Help
Firmware Upgrade	Parity	None 💠 Help
Roll Back	Elow Control	None
Upgrade Log	Flow control	None Y Help
Ethernet-to-Serial	Device Type	Data Only 🗘 Help
Network Setting	Remote IP Address / Port	0.0.0.0 / 4000 -
Serial Setting	KeepAlive Check Time(sec)	0 Help
SNMP Setting	Runace	Enable A Help
Change Password	D3ha22	
Upgrade E2S	3 [1] [2]	
Save & Reboot	Submit Cancel	

Serial Setting [2]

Serial setting [2] page

No.	Item	Description
1	Serial Setting	Configure Serial port [1] and port [2]
0	Serial Port [2]	Port [2] is to communicate with the PC Control via Ethernet. Follow the below instruction to configure Serial port [2] and press Submit button. Go to "Save & Reboot" page and press Save & Reboot button to validate the changes. - Operation mode: TCP Server - Local socket port: 4002 - Baud Rate: 19200 bps - Data Bit: 8 Bit - Stop Bit: 1 Bit - Parity: None - Flow Control: None The ACU control settings should be applied as same above.
3	[1][2]	Select to configure Serial port [1] or Serial port [2]

SNMP Setting

SNMP setting page

renna	Et						
General Information							
urrent Status		SNMP Agent Configuration					
Ship Information		SNMP V1/V2/V3 Agent	1	Enable	A	Help	
Antenna Position		51111 12, 12, 15 Agent		Endoic		<u>iicip</u>	
racking Information	(2)	V1/V2 Attribution		ReadOnly	÷	Help	
arameter Setting	(3)	V3 Attribution		ReadOnly	\$	Help	
odem Setting		V2 Hearnama / Bacqueard		intellian		/ 10245679	
lock Zone Setting	9	vs osemanie / Passworu		Inteniari		/ 12343078	
iagnosis	(5)	TRAP IP / Port		0.0.0.0		/ 162	
atellite Information	6	System Reset Notification		Enable	\$	Help	
tenna/ACU Firmware	$\overline{\mathcal{T}}$	Port Connect Notification		Disable	\$	Help	
rmware Upgrade		Bart Birger and Matification		Disable		11-la	
oll Back	0	Port Disconnect Notification		Disable	Ŧ	neip	
pgrade Log		Submit Cancel					
nernet-to-Serial							
etwork Setting							
erial Setting							
NMP Setting							
hange Password							
pgrade E2S							
ave 0 Dahaat							
ave & Reboot							

No.	Item	Description
1	SNMP v1/v2/v3 Agent	Enable or disable the SNMP (Simple Network Management Protocol) agent.
2	V1/2 Attribution	Configure the SNMP v1/v2 attributes (Read-Only, Read-Write, Disable). The community name of SNMP v1 / v2 is "public".
3	V3 Attribution	Configure the SNMP v3 attributes (Read-Only, Read-Write).
4	V3 Username / Password	Set a v3 username & password of the SNMP agent.
5	TRAP IP / Port	Set the trap IP address and socket number of the SNMP trap server. Trap feature will be disabled if the trap IP is set to 0.0.0.0.
6	System Reset Notification	Enable or disable the system reset SNMP trap notification.
7	Port Connect Notification	Enable or disable the port connect SNMP trap notification.
8	Port Disconnect Notification	Enable or disable the port disconnect SNMP trap notification.

Change Password

Change password page	Antenna	Ethernet-to-Serial / Change ID & Password				
	General Information					
	Current Status	2 Change ID				
	Ship Information	Current ID intellian				
	Antenna Position	New TD				
	Tracking Information					
	Parameter Setting	3 Change Password				
	Modem Setting	Enter Current Password				
	Block Zone Setting	Enter New Deceward				
	Diagnosis					
	Satellite Information	Confirm New Password				
	Antenna/ACU Firmware	Submit Cancel				
	Firmware Upgrade					
	Roll Back					
	Upgrade Log					
	Ethernet-to-Serial					
	Network Setting					
	Serial Setting					
	SNMP Setting					
	1 Change Password					
	No. Item	Description				
	Change Passv	word Change your login ID (user name) and password.				
		Enter your current login ID (user name) and new login				

2	Change ID	Enter your current login ID (user name) and new login ID. Press Submit button to validate the changes that are made to the login ID
3	Change Password	Enter your current login password and new login password. Press Submit button to validate the changes that are made to the login password.

Upgrade E2S (Ethernet-to-Serial)

Upgrade E2S page

Antenna	Ethernet-to-Serial / Upgrade Ethernet-to-Serial
General Information	
Current Status	2 New Firmware
Ship Information	5
Antenna Position	Browse and select the firmware file to upload.
Tracking Information	Choose File no file selected
Parameter Setting	
Modem Setting	Current Kernel Version: v2.2b
Block Zone Setting	It will take about a minute for the upload to complete.
Diagnosis	The time may vary according to your environment. Please note that wrong firmware file may cause serious damage to ACU
Satellite Information	
Antenna/ACU Firmware	Start Update Cancel
Firmware Upgrade	
Roll Back	
Upgrade Log	
Ethernet-to-Serial	
Network Setting	
Serial Setting	
SNMP Setting	
Change Password	
Upgrade E2S	

No.	Item	Description
1	Upgrade E2S	Upgrade the firmware of Ethernet-to-Serial module.
2	New Firmware	Select a new firmware file and press Start Update button to upgrade the firmware of Ethernet-to-Serial module.
Upgrade Steps

- 1. Click on "Browse" button to select the E2S firmware file (.bin) that you wish to upgrade.
- 2. Click on "Start Update" button to update the E2S firmware. Wait until the page is loaded.
- 3. It'll inform you that the firmware is being uploaded.

Antenna	Ethernet-to-Serial / Save & Reboot
General Information	
Current Status	Now the firmware is being uploaded. If update is successful, the screen will be inaccessible. It takes around 30 econds to complete the firmware upgrade. Please reconnect the web page after upgrade.
Ship Information	
Antenna Position	
Tracking Information	If this screen doesn't change within 30 seconds , it means firmware update is not sucessful. In this case, please reconnect to the device and retry.
Parameter Setting	
Modem Setting	
Block Zone Setting	
Diagnosis	
Satellite Information	
Antenna/ACU Firmware	
Firmware Upgrade	

4. It takes around 30 seconds to complete the firmware upgrade. Please reconnect the web page after upgrade.

System disconnection	Antenna	Internet Explorer cannot display the webpage
	General Information	
	Current Status	
	Ship Information	what you can try:
	Antenna Position	Diagnose Connection Problems
	Tracking Information	() Marginformation
	Parameter Setting	
	Modem Setting	This problem can be caused by a variety of issues, including:
	Block Zone Setting	Internet connectivity has been lost.
	Diagnosis	 The website is temporarily unavailable. The Domain Name Server (DNS) is not reachable.
	Satellite Information	 The Domain Name Server (DNS) does not have a listing for the website's domain. These might be a brain error in the address.
	Antenna/ACU Firmware	 If this is an HTTPS (secure) address, dick Tools, click Internet Options, click Advanced, and check to be sure the SSL and TLS protocols are enabled under the security section.
	Firmware Upgrade	For offline users
	Roll Back	You can still view subscribed feeds and some recently viewed webnanes
	Upgrade Log	To view subscribed feeds
	Ethernet-to-Serial	1. Click the Favorites Center button $ \!$
	Network Setting	To view recently visited webpages (might not work on all pages)
	Serial Setting	1. Click Tools 🖗 and then click Work Offline.
	SNMP Setting	2. Click the Favorites Center button 🛱, click History, and then click the page you want to view.
	Change Password	
	Upgrade E2S	
	Save & Reboot	
	Access Log	

Save &

oot page	Antenna	Ethernet-to-Serial / Save & Reboot
	General Information	
	Current Status	2 Save & Reboot
	Ship Information	All configuration observes made will be several in the ACII and effective upon school
	Antenna Position	All configuration changes made will be saved in the ACU and effective upon reboot.
	Tracking Information	Save & Reboot
	Parameter Setting	
	Modem Setting	
	Block Zone Setting	
	Diagnosis	(3) Reboot without Saving
	Satellite Information	Al configuration changes made will be lost upon reboot. Reboot Only
	Antenna/ACU Firmware	
	Firmware Upgrade	
	Roll Back	
	Upgrade Log	
	Ethernet-to-Serial	
	Network Setting	
	Serial Setting	
	SNMP Setting	
	Change Password	
	Upgrade E2S	
	1 Save & Reboot	
	Access Log	
	No. Item	Description
	① Save & Reboo	t Save settings to the ACU and reboot or reboot the

Save the modified settings and reboot the system.

Reboot the system without saving the modified settings.

Save & Reboot

2

3

Save & Reboot

Reboot without Saving

Access Log

Access log page

Antenna	Ethernet-to-Serial / Aceess Log		
General Information			
Current Status	Date/Time	ID	IP
Ship Information	"Wed_27 Oct 2010 05:29:00"	"intellian"	"112.168.126.85"
Antenna Position		lintellin - l	112.100.120.00
Tracking Information	Wed, 27 Oct 2010 05:38:19	Intellian	112.168.126.136
Parameter Setting	"Wed, 27 Oct 2010 05:51:27"	"intellian"	"112.168.126.85"
Modem Setting	"Wed, 27 Oct 2010 06:09:55"	"intellian"	"112.168.126.85"
Block Zone Setting	"Wed, 27 Oct 2010 07:56:48"	"intellian"	"112.168.126.85"
Diagnosis	"Wed, 27 Oct 2010 07:58:58"	"intellian"	"112.168.126.85"
Satellite Information	"Wed. 27 Oct 2010 08:05:39"	"intellian"	"61.74.107.222"
Antenna/ACU Firmware	"Wed 27 Oct 2010 08:13:26"	"intellian"	"112 169 9 131"
Firmware Upgrade		internatio	112.109.19.191
Roll Back			
Upgrade Log			
Ethernet-to-Serial			
Network Setting			
Serial Setting			
SNMP Setting			
hange Password			
Upgrade E2S			
Save & Reboot			
Access Log			
lo. Item	Description		
	Display user's log information	on (Date/Time Log	in ID and IP\
J ACCESS LUY	Display user s log informatio	in (Date/ Hille, LUg	ni id anu ir)

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Warranty

This product is guaranteed by Intellian Technologies Inc., against defect due to faulty workmanship or materials and this guarantee covers for 1 year's parts from installation or 18 months from shipment.

You are requested to present a copy of the purchase receipt issued by Intellian Technologies, Inc. that presents the date of purchase for after sales service under warranty. In case of failure to present the date of purchase, the warranty period is to be calculated to 30 days after the manufacturing production date.

If you discover a defect, Intellian Technologies, Inc. will, at its option, repair, replace or refund the purchase price of the product at no charge to you, provided you return it during the warranty period, transportation charges prepaid, to the factory direct. Please attach your name, address, telephone number, a description of the problem and a copy of the bill of sale or sales receipt as proof of date of original retail purchase, to each product returned to warranty service. Alternatively, you may bring the product to an Authorized Intellian Technologies, Inc. dealer/distributor for repair.

This Limited Warranty does not apply if the product has been damaged by accident, abuse, misuse or misapplication or has been modified without the written permission of Intellian Technologies, Inc.; if any Intellian Technologies, Inc. serial number has been removed or defaced; or if any factory-sealed part of the system has been opened without authorization.

Technical Specification

General				
Approvals				
CE – conforms to	EU Directive 89/336/EEC			
FCC – verified to	CFR47: Part 15			
Dimensions				
Satellite antenna unit	78.0 cm x 84.5 cm (30.7" x 33.3")			
Antenna dish diameter	60cm (23.6")			
Antenna control unit	43.1cm x 38.1cm x 4.4cm (17" x 15" x 1.7")			
Weight				
Satellite antenna unit	59.5 kg (131.2 lbs)			
Antenna control unit	5.2kg (11.5 lbs)			
Antenna system performance				
Tx Frequency	14.0 ~ 14.5 GHz Ku-band			
Tx Gain	38.1 dBi			
Rx Frequency	10.95 ~ 12.75 GHz Ku-band			
Rx Gain	35.8 dBi			
Polarized Feed	Cross-pol / Cross-pol & Co-pol			
Skew Control	Automatic Skew-angle Control			
Azimuth range	Unlimited			
Elevation range	-10° ~ +100°			
Cross-level range	±30°			
Stabilization Accuracy	0.2° peak mis-pointing @ max ship motion condition			
Max Ship's motion	±25°roll, ±15° pitch, ±8°yaw@ 6 sec			
Turning rate	Up to 12°/ sec & 5°/ sec2			
BUC	4W, 6W, 8W (optional)			
Rack Mount Antenna Control Unit				
Display	2 Line 40 Character Graphic VFD Module			
Serial Interface	19200 bps 8, N, 1, RS-232C			
Modem Interface	Ethernet port / RS-232C / I/O ports			
Remote Access	TCP / IP			
Input Power	100 ~ 240V AC, 50 ~ 60Hz			
Gyrocompass Interface	NMEA / Syncro			

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