Seanet System
J-Box Aux Interface

Supplement

Supplied by

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F063.1

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Handling of Electrostatic-Sensitive Devices

Certain semiconductor devices used in the equipment are liable to damage due to static voltages.

Observe the following precautions when handling these devices in their unterminated state, or sub-units containing these devices:

- Persons removing sub-units from any equipment using electrostatic sensitive devices must be earthed by a wrist strap via a 1MΩ resistor to a suitable discharge reference point within the equipment.

- Soldering irons used during any repairs must be low voltage types with earthed tips and isolated from the Mains voltage by a double insulated transformer. Care should be taken soldering any point that may have a charge stored.

- Outer clothing worn must be unable to generate static charges.

- Printed Circuit Boards (PCBs) fitted with electrostatic sensitive devices must be stored and transported in appropriate anti-static bags/containers.

F110.0

Warranty Statement

Tritech International Limited herein after referred to as **TIL**

TIL warrants that at the time of shipment all products shall be free from defects in material and workmanship and suitable for the purpose specified in the product literature.

The unit/system warranty commences immediately from the date of customer acceptance and runs for a period of 365 days. Customer acceptance will always be deemed to have occurred within 72 hours of delivery.

Note: Any customer acceptance testing (if applicable) must be performed at either TIL premises or at one of their approved distributors unless mutually agreed in writing prior to despatch.

Conditions:

These include, but are not limited to, the following:

1   The warranty is only deemed to be valid if the equipment was sold through TIL or one of its approved distributors.

2   The equipment must have been installed and commissioned in strict accordance with approved technical standards and specifications and for the purpose that the system was designed.

3   The warranty is not transferable, except or as applies to Purchaser first then to client.

4   TIL must be notified immediately (in writing) of any suspected defect and if advised by TIL, the equipment subject to the defect shall be returned by the customer to TIL, via a suitable mode of transportation and shall be freight paid.

5   The warranty does not apply to defects that have been caused by failure to follow the recommended installation or maintenance procedures. Or defects resulting from normal wear & tear, incorrect operation, fire, water ingress, lightning damage or fluctuations in vehicles supply voltages, or from any other circumstances that may arise after delivery that is out with the control of TIL.
        (**Note:** The warranty does not apply in the event where a defect has been caused by isolation incompatibilities.)

6   The warranty does not cover the transportation of personnel and per diem allowances relating to any repair or replacement.

7   The warranty does not cover any direct, indirect, punitive, special consequential damages or any damages whatsoever arising out of or connected with misuse of this product.

8   Any equipment or parts returned under warranty provisions will be returned to the customer freight prepaid by TIL

9   The warranty shall become invalid if the customer attempts to repair or modify the equipment without appropriate written authority being first received from TIL.

10   TIL retains the sole right to accept or reject any warranty claim.

11   Each product is carefully examined and checked before it is shipped. It should therefore be visually and operationally checked as soon as it is received. If it is damaged in anyway, a claim should be filed with the courier and TIL notified of the damage.

Note: TIL reserve the right to change specifications at any time without notice and without any obligation to incorporate new features in instruments previously sold.

Note: If the instrument is not covered by warranty, or if it is determined that the fault is caused by misuse, repair will be billed to the customer, and an estimate submitted for customer approval before the commencement of repairs.

F167.1

Safety Statements

<table>
<tr>
<td>⚠️ **Caution!**</td>
<td>Throughout the manual certain safety or operational related comments and requirements will be highlighted to the operator by indications identified by the adjacent symbol and text.</td>
</tr>
</table>

Technical Support

Contact your local agent or Tritech International Ltd

✉️	Mail	***Tritech International Ltd.*** Peregrine Road, Westhill Business Park, Westhill, Aberdeen, AB32 6JL, UK
☎️	Telephone	++44 (0)1224 744111
	Fax	++44 (0)1224 741771
💻	Email	support@tritech.co.uk
	Web	www.tritech.co.uk

**An out-of-hours emergency number is available by
calling the above telephone number**

If you have cause to use our Technical Support service, please ensure that you have the following details at hand **prior** to calling:

- System Serial Number (if applicable)
- Fault Description
- Any remedial action implemented

Due to the expansion of equipment capabilities and the fact that new sub-modules are continually being introduced, this manual cannot detail every aspect of the operation.

The name of the organisation which purchased this system is held on record at *Tritech International Ltd*. Details of new software and hardware packages will be announced at regular intervals. Depending on the module, free upgrades will be offered in keeping with our policy of maintaining the highest levels of customer support.

Tritech International Ltd can only undertake to provide software support for systems loaded with Operating System and Tritech Seanet software in accordance with the instructions given in the System Re-installation section of this manual. It is the customers responsibility to ensure the compatibility of any other package that they may choose to load unless with the prior consent of *Tritech*.

⚠ Caution!	The Operation of the Junction Box Aux port is disabled in *any* SONV3 software version It is only active when using Seanet Pro version 1.13 or later

INTRODUCTION

It is possible to configure the 'Aux' port on the Tritech MultiComm Junction Box (J-Box) for input of RS232 / RS485 serial data from 3rd party serial devices.

These serial devices can optionally be powered directly from the J-Box Aux Port. But first check the power ranges are the same. The 21-30VDC power that is applied to the J-Box 'Main' port can be linked directly through to the Aux port. Else, this can be regulated to a 12VDC supply for the Aux port connected device.

The Aux Port interface can be used to pass serial device data to the surface, where it can then be displayed and/or transmitted out a serial port to another PC. The serial data must be in ASCII format and be terminated with a Line Feed (<LF>) terminator. The Aux Port will accept message strings up to 100 characters in length, including the terminator.

Important: The Aux Port interface will only be functional when the MultiComm J-Box is configured to "intelligent" RS232 mode (Switch Options 1 – 4). When it is set in the "dummy" ArcNet pass through mode (Switch Options 5 – 8), the Aux Port is disabled.

WIRING DETAILS

The external rotary dial located on the face of the Junction Box provides 8 operational modes...

Switch Option	Input 'Surface' 21-30VDC	Output 'A-D' 21-30VDC	AUX Port **	
			232/485	**Power O/P**
1	SeaKing RS232	Local ARCNET	RS232	21-30VDC (As Input)
2	SeaKing RS232	Local ARCNET	RS485	21-30VDC (As Input)
3	SeaKing RS232	Local ARCNET	RS232	12VDC
4	SeaKing RS232	Local ARCNET	RS485	12VDC
5	ARC-NET	ARC-NET	N/A	21-30VDC
6	ARC-NET	ARC-NET	N/A	21-30VDC
7	ARC-NET	ARC-NET	N/A	12VDC
8	ARC-NET	ARC-NET	N/A	12VDC

CAUTION: • ENSURE POWER ISOLATED BEFORE CHANGING OPTION SWITCH.
                   • OPTIONS 5-8, AUX PORT NOT IN USE BUT OUTPUT VOLTAGE STILL PRESENT ON THIS PORT.
                   • ENSURE TO FIT THE PRESSURE RATED O-RING SEALED BLANKING CAPS TO ANY PORTS NOT IN USE.

J-Box Face View
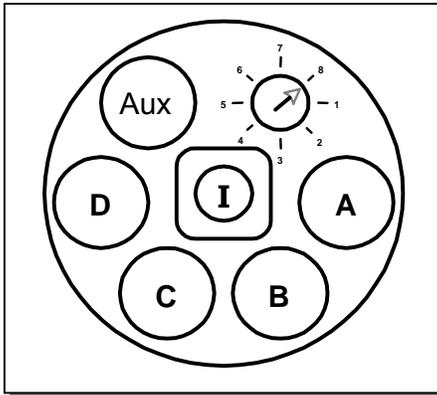
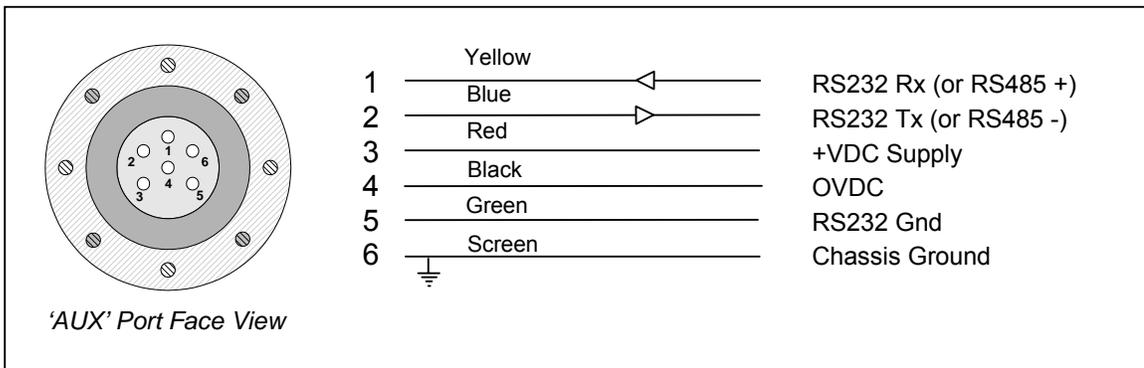**Port I:** *This is the input port for J-Box power and Comms to surface.*

Ports A-D: *These are the ArcNet ports for the SeaKing device connections (i.e. Sonar, Profiler, Bathy, ..etc).*

Port 'Aux': *This is the J-Box 'Aux' Port which can be configured for RS-232 or RS-485 serial data input.*

An interconnect cable will need to be assembled for the connection of the 3rd party Serial device to the J-Box Aux Port. This cable should be wired according to the configured communications type, either RS232 or RS485, as selected on the J-Box Rotary Switch (Positions 1,3 = RS232; 2,4 = RS485). The connected device should be powered from another source if the J-Box DC power options are not suitable.

AUX Port Wiring

Pin	Wire	Signal
1	Yellow	RS232 Rx (or RS485 +)
2	Blue	RS232 Tx (or RS485 -)
3	Red	+VDC Supply
4	Black	0VDC
5	Green	RS232 Gnd
6	Screen	Chassis Ground

'AUX' Port Face View

N.B. *The standard mating connector for the 'Aux' Port is a Tritech 6-pin.*

As aforementioned, the J-Box Aux Port has RS232 and RS485 communication options fitted. These are configured on the Rotary switch.

Further Aux Port telemetry settings such as transmission Baud rates are configured via the "Seanet Setup" software utility installed on the surface PC / SCU. This will now be described…

Caution!

The Junction Box Aux Port will normally use Pin 5 for RS232 ground and the Tritech PA altimeter uses Pin 4. Therefore for an Altimeter to be used with a standard double ended Tritech cable the Analog output on the altimeter should be disabled and Pins 4 and 5 must be shorted together.

CONFIGURING THE JUNCTION BOX 'AUX' PORT

The J-Box 'Aux' port can be configured for RS232 or RS485 telemetry types. This selection is configured via the external Rotary Switch on the J-Box. This should be set to match the telemetry type of the connected serial device.

Once the desired telemetry type is set, further configuration of the J-Box Aux port is handled in software through the 'Seanet Setup' utility program. This utility program will be installed on the surface PC / SCU to which the J-Box is connected. The Setup utility lists all the Nodes that are connected. This can include J-Box (Node 254) and SeaKing devices (i.e. Sonar = Node 2, Bathy = Node 40, Master Profiler = Node 20).

'Seanet Setup' Node Table

Once detected in the Seanet Setup table, the J-Box Aux Port should then be configured. In particular, the Baud Rate of the Aux port should be set to match that of the serial device that is connected.

The procedure for the J-Box 'Aux' port telemetry configuration is as follows;

a)   Open the 'Seanet Setup' program from the Windows desktop icon. Ensure that **Node 254** J-Box is detected in the table.

b)   Click on the **Action** column for Node 254 and then select **Setup**, as shown…

c) This will open the **Aif Setup** page…

d) Ensure that the Aux Node is **244**. This will ensure that the data is displayed in the **Sidebar** (View | Sidebar) of the main 'Seanet Pro' software display…
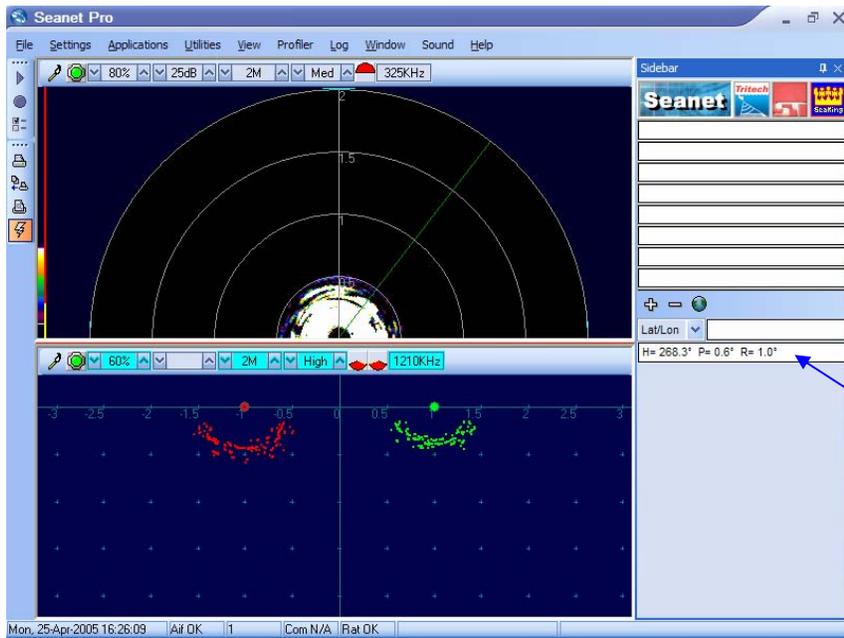

Auto display of J-Box Aux Port data in the Sidebar.

* Displayed Aux Port data will be logged alongside other SeaKing device data.

e) Also, ensure the '**AuxComm 1 Sec Rate**' check box is enabled. This will safely limit the throughput of Aux Port messages to <u>one per second</u>. This is recommended as if the frequency and quantity of Aux Port data is too high then this can reduce the bandwidth available to other devices.

<u>HINT:</u> *If you want to disable the "one per second" option, test the system before going live.*

f)   Finally, from here press the **Baud Rates** Button...
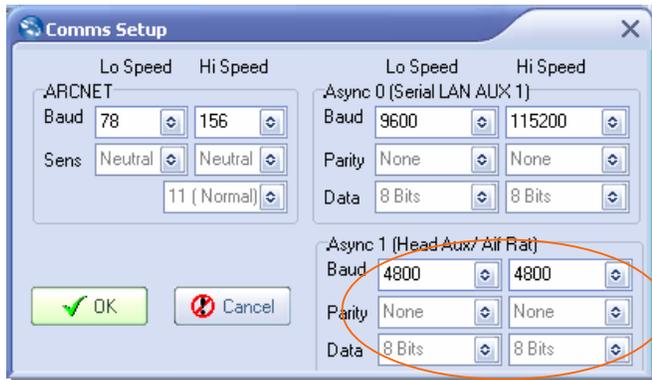

…Check Baud rates on **Async 1 (AUX)** match the output of the connected serial device.

TRANSMITTING AUX PORT DATA OUT SURFACE SERIAL PORT

This is handled in the **REMV4** utility program that will be loaded on the PC / SCU. It can be opened via its taskbar icon in the tray to the bottom-right of the Windows desktop…
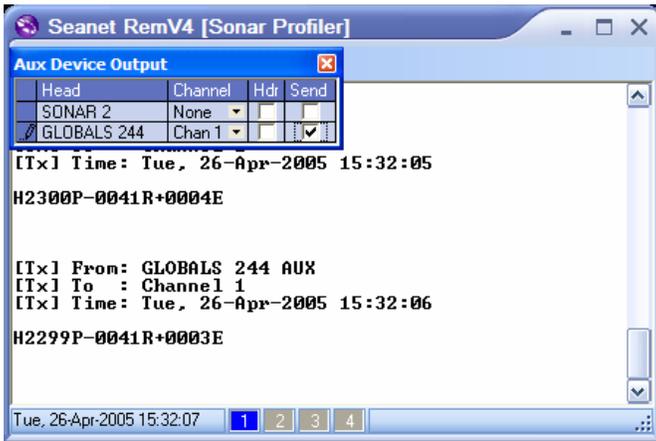
REMV4 Icon

Once REMV4 is opened, select '**Aux Device Output**' from the Applications menu…
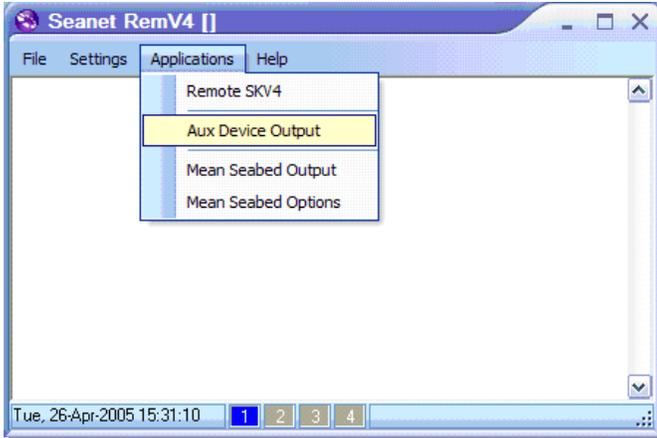
…This will open the Aux Device Output page which lists available Aux Port data devices.

As default, the J-Box Aux Port will be programmed with Node **244**. This was described earlier in this document. This will appear in the list as **GLOBALS 244**.

To enable a Serial Port output of the Aux Port data, click on the '**Send**' check-box, as shown above. Finally, select a **Channel** for the output. A Serial Port will be allocated against this Channel – this can be configured via **Settings | Channels** in the REMV4 program.

ADDITIONAL SOFTWARE SETTINGS

In the previous section it was mentioned that the Aux Port Node number should be set to **244**. This will ensure that the Aux Port data is displayed in the Sidebar of the Seanet Pro software display.

It is also possible to direct the Aux Port data into the Sonar window within the Seanet Pro display. However, this will only be possible if the Aux Port data is one of several string types which includes Compass and Depth (see below).

To direct the Aux Port data into the Sonar window, change the Aux Port Node number (part **d** above) to **2**, as follow…
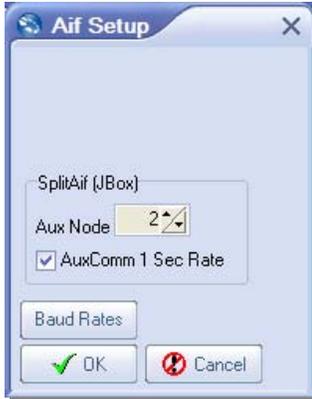
If the Aux Port data is of type Gyro compass (i.e. TCM2, NMEA "HDG" or "HDT"), then when running a Sonar application, right-click on the sonar display and select 'Aux Compass' from the popup menu. If recognised Gyro data is received via the Sonar Aux Port it will be displayed in the Compass popup.
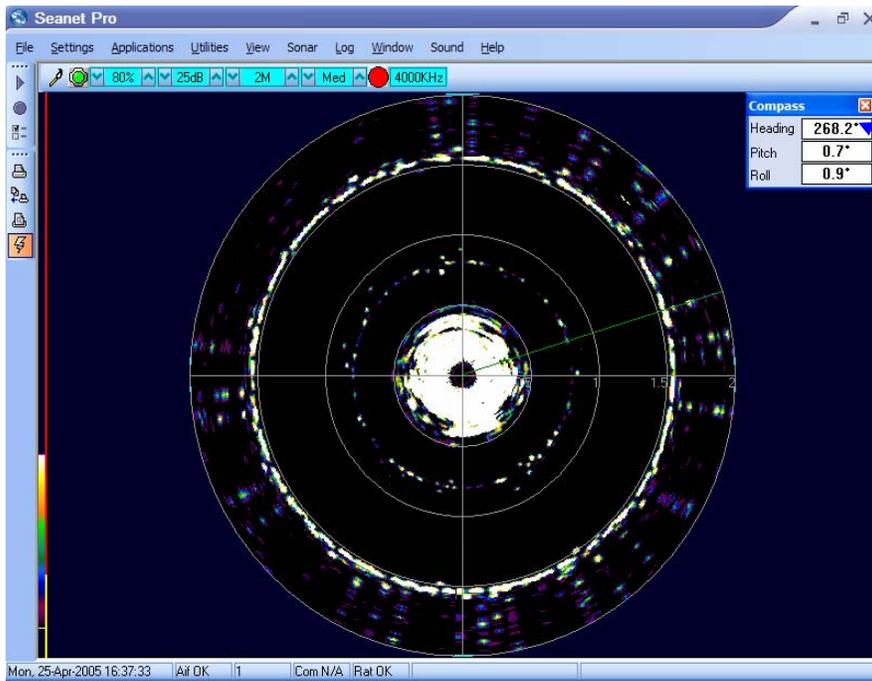
Compass Popup Display

N.B. The Gyro data will be logged along with Sonar data and will be displayed during later playback of the log file.