

## **AIS Application-Specific Message Client**

**Unlock Seamless Manual AIS Communication with  
Precision and Ease**

Build 07082024draft1

## **NOTICE**

This manual is for informational use only and may be changed without notice.

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## **Demonstration Program**

A demonstration program is provided free of charge. AIS TEST requires that the user request the demo program and documentation and validate it for their respective use prior to placing an order for the licensed version.

## **Limited Warranty**

Where software discrepancies or module operational bugs are identified, they should be immediately brought to the attention of AIS TEST.

The warranty is limited to the rectification of the discrepancy or bug through a software upgrade and should not exceed the original operational and technical specifications as defined by AIS TEST in the respective AIS Developer Studio module manual.

## **Objective**

The objective for the use of the AIS Application Specific - Message Client is to create a general interactive marine AIS environment using a PC and an external AIS transponder.

This product should only be used for the purposes intended by its developers and only according to acceptable reference standards and operating procedures.

Any deviation from this may conflict with competent regional authorities in your area.

The AIS Developer Studio and / or interfaces should not be used to alter the operational status of any AIS unit unless authorized by a competent authority.

Under no circumstances should the AIS Developer Studio and / or interfaces be used to create any signal content outside the scope of this document using any procedure or method offered by the AIS Developer Studio interface.

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**AIS TEST**, formerly Sine Qua Non Technology Holdings, would like to take this opportunity to congratulate you on the purchase of one of the AIS Developer Studio suite of products.

We want to assure you that this product range is designed using over 40 years of combined radio and AIS experience and has been thoroughly tested to ensure your complete satisfaction.

## **Customization**

If you have any questions, queries, or customization requests related to this product, please do not hesitate to contact us by email:

Thank you,

AIS TEST

## **Overview**

Very simply, the AIS VHF Data Link is a broadcast system, operating in the VHF maritime mobile band.

It is capable of sending ship information such as identification, position, course, speed and more, to other ships and to shore.

It can handle multiple reports at rapid update rates and uses various Self-Organizing Time Division Multiple Access technologies to meet these high broadcast rates and ensure reliable and robust ship-to ship operation.

## **Application-Specific Message**

AIS Application-Specific Messages can be sent to a specific receiver or broadcast to everyone.

The tech details and structure of these messages are laid out in ITU-R M.1371. The IMO came up with the content and format for different uses.

When you send an addressed AIS Application-Specific Message, the AIS station that is addressed will automatically send back a confirmation over the VHF Data Link.

## Introducing the AIS Application Specific - Message Client

**Revolutionize** your Manual AIS data management with our cutting-edge AIS Application Specific - Message Client.

Engineered for Windows PCs and utilizing any WINDOWS compatible RS422 USB Comport adapters, this advanced software ensures seamless interaction between your PC and AIS Presentation Port or AIS Pilot Plug port.

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### Key Features

#### 1. Comprehensive Data Display

- **Automatic Detection:** Effortlessly connect to the AIS RS422 Port and instantly view all “source” VDO messages (1, 2, 3, 4, 5, 6, 7, 8 ).
- **MMSI Extraction:** Software switch automatically extracts and uses the Transponder source MMSI from incoming VDO packets.
- **Position Extraction:** Software switch automatically extracts and uses the Transponder Longitude and Latitude from incoming VDO packets.

#### 2. Interactive Data Entry

- **Custom Dialogs:** Choose between Meteorological and Hydrological Message 8 or Tidal Window Message 6 dialogs.
- **Manual Input:** Enter and validate user data with ease to ensure accuracy.

#### 3. Efficient Data Porting

- **Seamless Transmission:** With a single click on the Presentation Port Button, port either an “Application – Specific” Addressed Binary Message (ABM) or Broadcast Binary Message (BBM) NMEA 61162 compatible string to the AIS RS422 Port.
- **Automatic Display:** The Client Application immediately displays the AIS-created VDO message, and Transponder ABK message’s confirming successful transmission of ABM or BBM requests.

#### 4. Detailed Response Tracking

- **ABK Decoding:** For ABMs, the Client decodes and displays the ACK from the destination MMSI in the timeline.
- **Dynamic Message Filter:** View and analyze your transmissions with the dynamic message filter for precise monitoring.



## Why Choose Our Client?

- **User-Friendly Interface:** Designed for ease of use, our application simplifies a complex AIS data management task.
  - **Reliable Connectivity:** Ensures consistent communication between your PC and AIS hardware.
  - **Real-Time Feedback:** Provides immediate confirmation and detailed insights into your source AIS transmissions and destination receptions.
  - **Customize:** As your need grows upgrade and add more ASM's
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## Technical Specifications

- **Operating System:** Windows XP...10 PC
  - **Hardware Requirements:** RS422 - USB Presentation or Pilot Plug Adapter
  - **Compatibility:** RS422: AIS Presentation Port, AIS Pilot Plug Port
  - **Specifications:** NMEA 61162, ITU-R M.1371-5
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## Perfect For

- **Maritime Professionals:** Ensure accurate and efficient AIS communication.
  - **Marine Researchers:** Gain precise data for analysis and research.
  - **Safety and Navigation Experts:** Enhance vessel tracking and safety measures.
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## Get Started Today!

Transform your Manual AIS message handling with our upgradeable Application – Specific Message Client.

For more information or to request a demo, contact us.

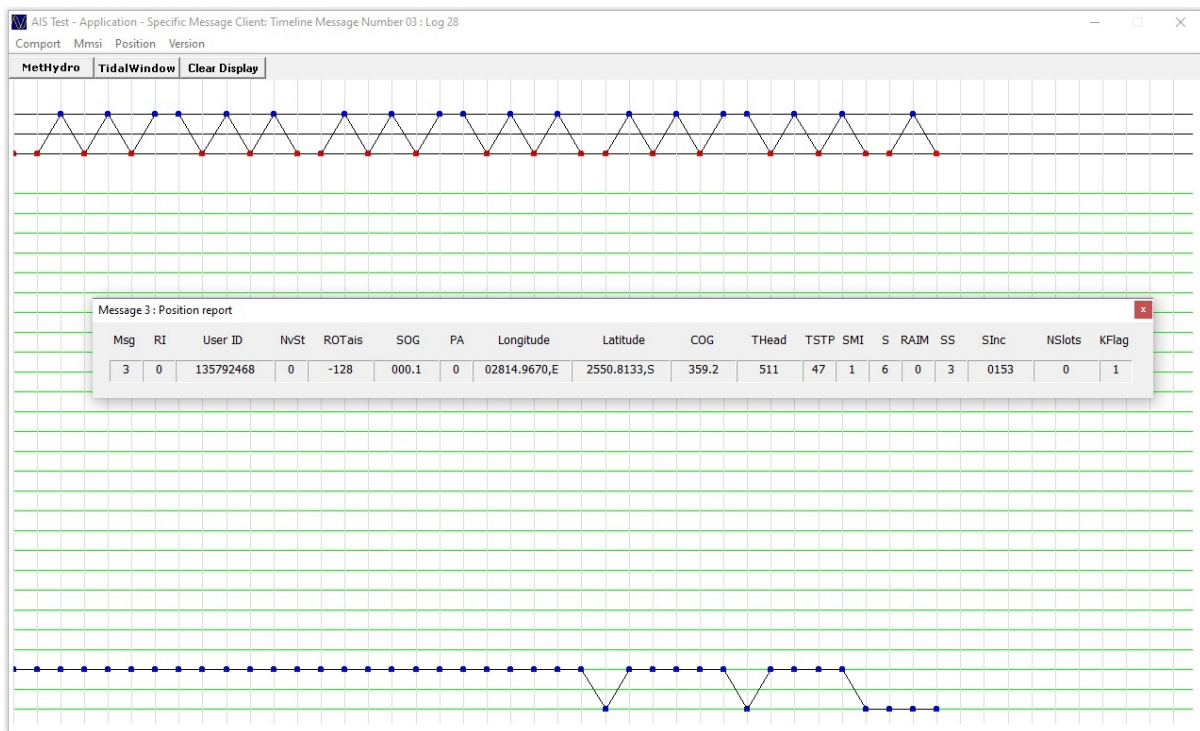
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Elevate your maritime communication. Precision. Reliability. Innovation.



## AIS VDL Timeline

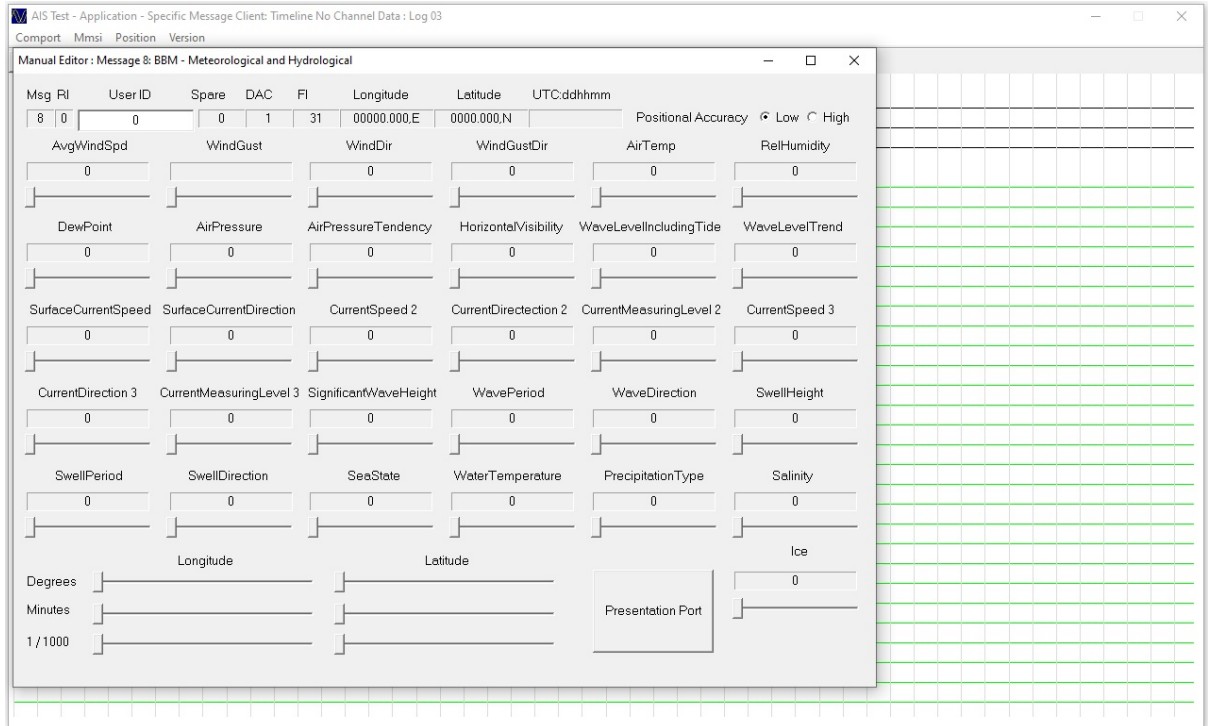
- 50 tracks per circular buffer timeline
- Horizontal timeline grid
- Vertical message grid
- Message Filter selection using mouse





## Toolbar

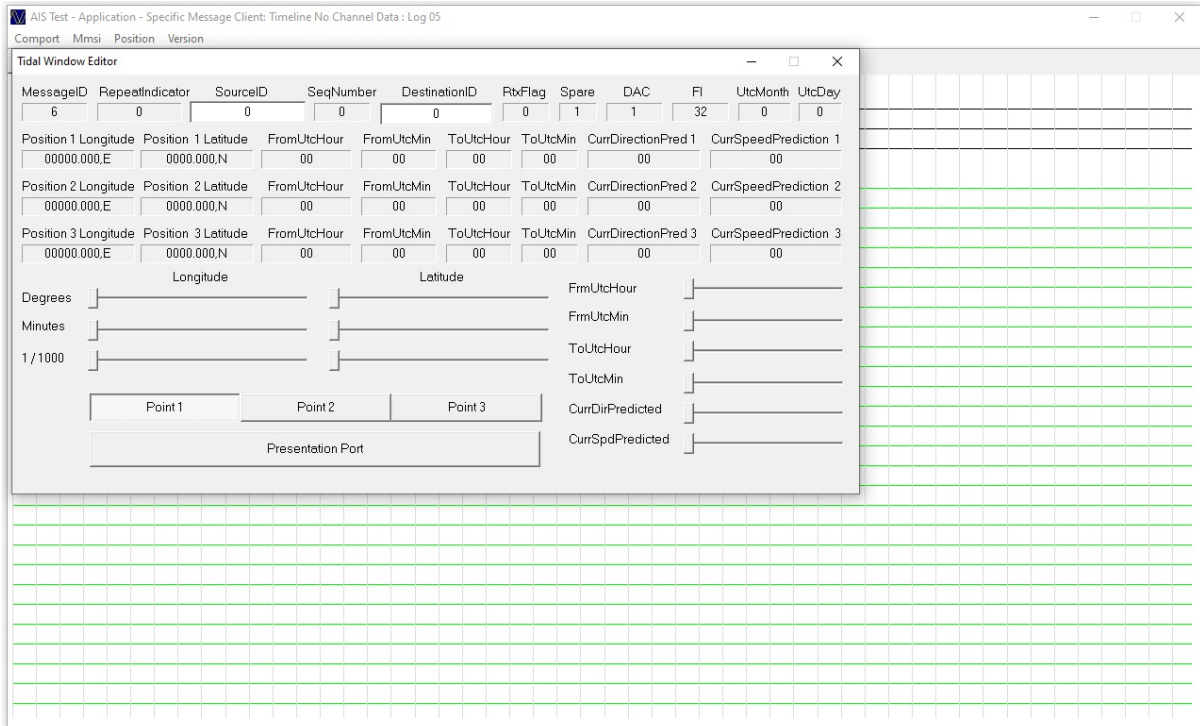
- **MetHydro:** This message allows the distribution of meteorological and hydrographic information.





## Toolbar

- **TidalWindow:** This message should be used to inform vessels about tidal windows which allow a vessel the safe passage of a fairway.

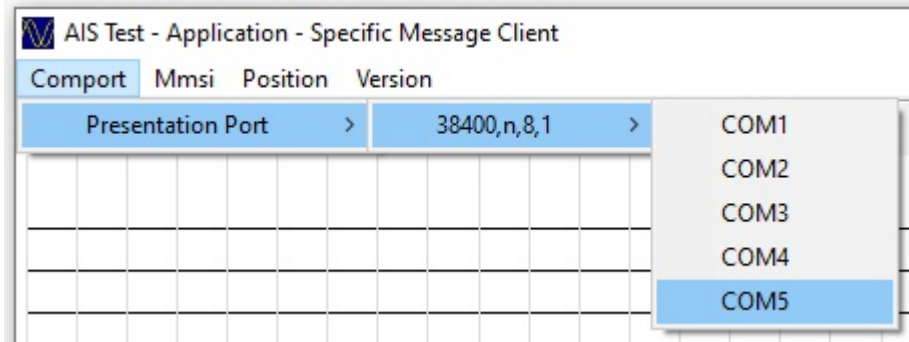




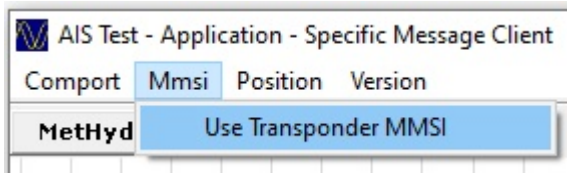


## Menu Options

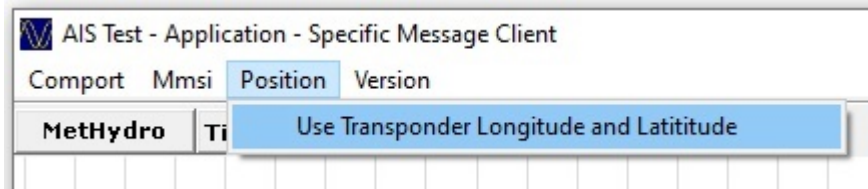
### Comport:



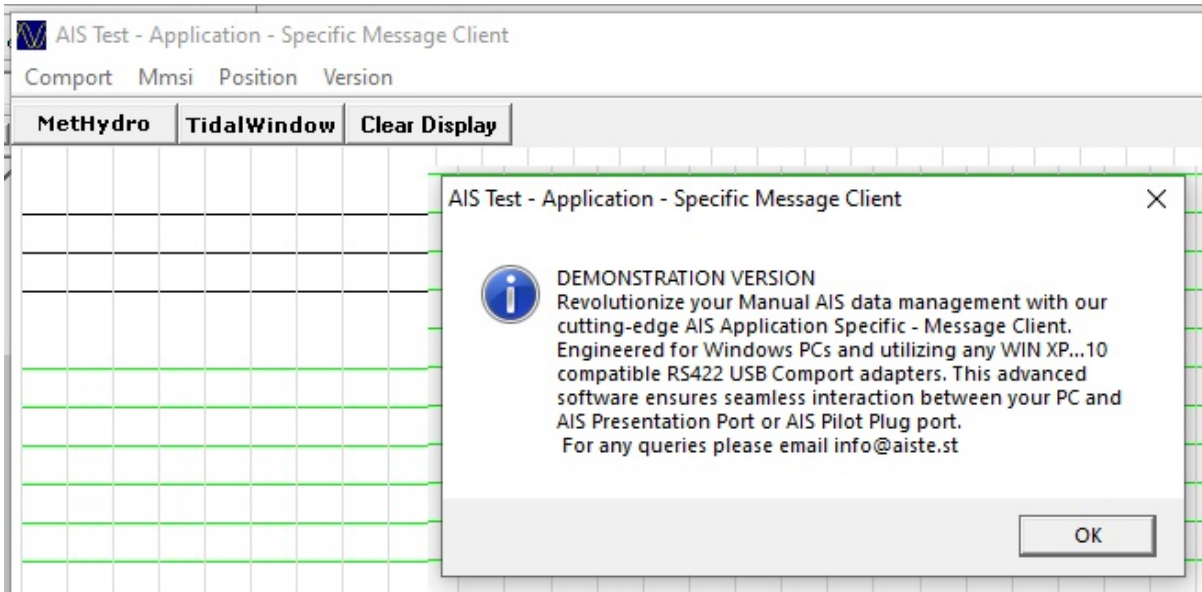
### MMSI: Software switch



### POSITION: Software switch



### ABOUT:





### Message Filters : Tracking

Message 1 : Position report ✕

Msg	RI	User ID	NvSt	ROTais	SOG	PA	Longitude	Latitude	COG	THead	TSTP	SMI	S	RAIM	SS	STO	SubMSG
1																	

Message 2 : Position report ✕

Msg	RI	User ID	NvSt	ROTais	SOG	PA	Longitude	Latitude	COG	THead	TSTP	SMI	S	RAIM	SS	STO	SubMSG
2																	

Message 3 : Position report ✕

Msg	RI	User ID	NvSt	ROTais	SOG	PA	Longitude	Latitude	COG	THead	TSTP	SMI	S	RAIM	SS	SInc	NSlots	KFlag
3																		

Message 4 : UTC and position report from base station ✕

Msg	RI	User ID	utcY	utcM	utcD	utcH	utcM	utcS	Longitude	Latitude	EPFD	TLRB	S	RAIM	SS	STO	SubMSG
4																	

Message 5 : Ship static and voyage related data ✕

Msg	RI	User ID	aisV	IMO Num	Call Sign	Name Of Ship	TShip	dimA	dimB	dimC	dimD		
5													
			EPFD	etaM	etaD	etaH	etaM	Draught			Destination	DTE	S



### Message Filters : Application – Specific

Message 6 : ABM - Tidal Window

MessageID	RepeatIndicator	SourceID	SeqNumber	DestinationID	RtxFlag	Spare	DAC	FI	UtcMonth	UtcDay
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Position 1 Longitude	Position 1 Latitude	FromUtcHour	FromUtcMin	ToUtcHour	ToUtcMin	CurrDirectionPred 1	CurrSpeedPrediction 1			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
Position 2 Longitude	Position 2 Latitude	FromUtcHour	FromUtcMin	ToUtcHour	ToUtcMin	CurrDirectionPred 2	CurrSpeedPrediction 2			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
Position 3 Longitude	Position 3 Latitude	FromUtcHour	FromUtcMin	ToUtcHour	ToUtcMin	CurrDirectionPred 3	CurrSpeedPrediction 3			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			

Message 8 : BBM Meteorological and Hydrological

Msg RI	User ID	Spare	DAC	FI	Latitude	Longitude	UTC:ddhhmm			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			
AWindSpd	WindGust	WindDir	WindGustDir	AirTemp	RelHumidity	DewPoint	AirPressure	AirPresTnd	HorVisibility	WLVlnctide
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
WLVltrend	SurfCurSpd	SurfCurDir	CurSpd2	CurDir2	CurMesLvl2	CurSpd3	CurDir3	CurMesLvl3	SigWavHgt	WavePeriod
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
WaveDir	SwellHeight	SwellPeriod	SwellDir	SeaState	WaterTemp	PrecipType	Salinity	Ice	Spare	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

### Message Filter : Binary Acknowledge

Message 7 : Binary acknowledge

Msg	RI	User ID	S	DestinationID1	SqID1	DestinationID2	SqID2	DestinationID3	SqID3	DestinationID4	SqID4
<input type="text" value="7"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

### Message Filter : ABK - Addressed and Binary Broadcast Acknowledgement

ABK - Addressed and Binary Broadcast Acknowledgement

Msg	Destination ID	rxCH	msgType	seqNum	typeOfAck
<input type="text" value="ABK"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>



## Reference Documents

### List of standards and specifications

Document Number	Title
IEC 61162-1	Maritime Navigation and Radio Communication Equipment and Systems - Digital Interfaces: Part 1 - Single Talker and Multiple Listeners.
IEC 61162-2	Maritime Navigation and Radio Communication Equipment and Systems - Digital Interfaces: Part 2 - Single Talker and Multiple Listeners High Speed Transmission.
IEC61162-100-80_330E_PAS	This document provides information on the necessary interface standards for use with the UAIS, which are not available in the current issue of IEC 61162-1 Ed 2. The information in this PAS supersedes that in annex B (informative) of IEC 61993-2, the Standard for UAIS
IMO_SN1_Circ289_Guidance_on_use_of_AIS_ASM	This document provides an overview of the purpose and scope of AIS Application-Specific Messages, and provides guidance on their use. AIS Application-Specific Messages described in this document are recommended for broad international use
ITU-R M.1371-5	Technical characteristics for a universal ship-borne automatic identification system using time division multiple access in the maritime mobile band.

### List of Related Software and Manuals

Module	Description	Part number
AIS Developer Studio Software for Windows. Verified to run on WINXP - WIN10	Demonstration Version	



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