
iPAD connection to AIS receiver

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M.C.

Do you know how the different apps for iPad connect to the local AIS transmitter of my ship?

BingAI

Thinking..

Yes, there are several apps and devices that can help you connect your iPad to the local AIS (Automatic Identification System) transmitter on your ship. Here are a few options:

Boat Beacon: This app allows you to receive and transmit AIS data using your iPad. It provides real-time ship tracking, collision warnings, and other AIS information. It connects to the largest network of AIS shore receivers worldwide_1.

iAISTX: This is a Class B AIS transponder that can wirelessly connect to your iPad. It provides a wireless feed of AIS targets and GPS data to various marine charting apps like Navionics, iNavX, and others. It turns your iPad into a full-function chart plotter with real-time overlays_2.

CONNECT-AIS: This app allows your smartphone or iPad to securely connect wirelessly to certain AIS transponders, configure them, and monitor their performance_3..

These apps and devices typically create a local Wi-Fi network that your iPad can connect to, allowing you to receive and display AIS data in real-time.

Do you have a specific AIS transponder model or app in mind?

Refs.

1-apps.apple.com_2-digitalyacht.net_3-support.em-trak.com_4-digitalyachtamerica.com_5-apps.apple.com+2

M.C.

yes.. camino-108 from AMEC

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Thinking..

Great! The AMEC Camino-108 is a popular AIS transponder. To connect it to your iPad, you can follow these steps:

Set Up the Camino-108: Ensure your AIS transponder is properly installed and powered on. Refer to the user manual for specific installation instructions.

Wi-Fi Connection: The Camino-108 has built-in Wi-Fi. You need to connect your iPad to the Wi-Fi network created by the Camino-108. Look for the network name (SSID) and password in the device's manual or on the device itself.

AIS App: Download an AIS-compatible app on your iPad. Some popular options include:

Navionics: Offers detailed marine charts and real-time AIS data.

iNavX: Provides comprehensive charting and AIS integration.

Boat Beacon: Allows for real-time ship tracking and collision warnings.

Configure the App: Open the app and go to the settings or connection options. Select the Wi-Fi network created by the Camino-108 and configure the app to receive AIS data from it.

Test the Connection: Once connected, you should start seeing AIS data on your app. This includes information about nearby vessels, their positions, speeds, and other relevant data.

If you encounter any issues, refer to the Camino-108 user manual or the support section of the app you are using. Do you need help with a specific step or have any other questions?

M.C.

How, with what frequency, and what protocol, my AIS camino-108 gets the information (via VHF channel) from other surrounding ships that are in its 50nm coverage?

BingAI

Thinking..

Your AMEC Camino-108 AIS transponder receives information from surrounding ships using the following methods:

Frequency: AIS operates on two dedicated VHF channels, specifically 161.975 MHz (AIS1) and 162.025 MHz (AIS2). These frequencies are internationally designated for AIS communication.

Protocol: AIS uses a protocol called Self-Organizing Time Division Multiple Access (SOTDMA). This protocol ensures that AIS transponders automatically coordinate their transmissions to avoid collisions and ensure efficient use of the VHF channels. Each AIS transponder determines its own transmission schedule based on the surrounding traffic and available time slots.

Data Transmission: The AIS transponder on your ship continuously broadcasts and receives data packets. These packets include information such as the ship's position, speed, course, and other navigational details. The data is updated at regular intervals, typically every 2 to 10 seconds for moving vessels and every 3 minutes for stationary

vessels.

Range: The effective range of AIS communication can vary, but it is generally around 20 to 50 nautical miles, depending on factors like antenna height, weather conditions, and the presence of obstacles. Specifically, the Collserola Station in Barcelona, which is located at a height of 380m, perfectly covers the northern coast of Palma de Mallorca, as can be seen in the Brunzent photo.

By using these frequencies and protocols, your Camino-108 can effectively communicate with other AIS-equipped vessels within its coverage area, providing you with real-time information about nearby ships.

Do you have any other questions about your AIS system or its operation?

Collision avoidance

AIS was developed by the IMO technical committees as a technology to avoid collisions among large vessels at sea that are not within range of shore-based systems. The technology identifies every vessel individually, along with its specific position and movements, enabling a virtual picture to be created in real time. The AIS standards include a variety of automatic calculations based on these position reports such as Closest Point of Approach (CPA) and collision alarms. As AIS is not used by all vessels, AIS is usually used in conjunction with radar. When a ship is navigating at sea, information about the movement and identity of other ships in the vicinity is critical for navigators to make decisions to avoid collision with other ships and dangers (shoal or rocks). Visual observation (e.g., unaided, binoculars, and night vision), audio exchanges (e.g., whistle, horns, and VHF radio), and radar or automatic radar plotting aid are historically used for this purpose. These preventive mechanisms sometimes fail due to time delays, radar limitations, miscalculations, and display malfunctions, and can result in a collision. While requirements of AIS are to display only very basic text information, the data obtained can be integrated with a graphical electronic chart or a radar display, providing consolidated navigational information on a single display. Fishing fleet monitoring and control AIS is widely used by national authorities to track and monitor the activities of their national fishing fleets. AIS enables authorities to reliably and cost effectively monitor fishing vessel activities along their coast line, typically out to a range of 100 km (60 mi), depending on location and quality of coast based receivers/base stations with supplementary data from satellite based networks. Maritime security AIS enables authorities to identify specific vessels and their activity within or near a nation's Exclusive Economic Zone. When AIS data is fused with existing radar systems, authorities are able to differentiate between vessels more easily. AIS data can be automatically processed to create normalized activity patterns for individual vessels, which when breached, create an alert, thus highlighting potential threats for more efficient use of security assets. AIS improves maritime domain awareness and allows for heightened security and control. Additionally, AIS can be applied to freshwater river systems and lakes. Aids to navigation The AIS aids to navigation (AtoN) product standard was developed with the ability to broadcast the positions and names of objects other than vessels, such as navigational aid and marker positions and dynamic data reflecting the marker's environment (e.g., currents and climatic conditions). These aids can be located on shore, such as in a lighthouse, or on water, platforms, or buoys. The U.S. Coast Guard has suggested that AIS might replace racon (radar beacons) currently used for electronic navigation aids.[1] AtoNs enable authorities to remotely monitor the status of a buoy, such as the status of the lantern, as well as transmit live data from sensors (such as weather and sea state) located on the buoy back to vessels fitted with AIS transceivers or local authorities. An AtoN will broadcast its position and Identity along with all the other information. The AtoN standard also permits the transmit of 'Virtual AtoN' positions whereby a single device may transmit messages with a 'false' position such that an AtoN marker appears on electronic charts, although a physical AtoN may not be present at that location. Search and rescue For coordinating on-scene resources of a marine search and rescue (SAR) operation, it is imperative to have data on the position and navigation status of other ships in the vicinity. In such cases, AIS can provide additional information and enhance awareness of available resources, even if the AIS range is limited to VHF radio range. The AIS standard also envisioned the possible use on SAR aircraft, and included a message (AIS Message 9) for aircraft to report their position. To aid SAR vessels and aircraft in locating people in distress, the specification (IEC 61097-14 Ed 1.0) for an AIS-based SAR transmitter (AIS-SART) was developed by the IEC's TC80 AIS work group. AIS-SART was added to Global Maritime Distress Safety System regulations effective January 1, 2010.[2] AIS-SARTs have been available on the market since at least 2009.[3] Recent regulations have mandated the installation of AIS systems on all Safety Of Life At Sea (SOLAS) vessels and vessels

over 300 tons.[4] Accident investigation AIS information received by VTS is important for accident investigation since it provides accurate historical data on time, identity, GPS-based position, compass heading, course over ground, speed (by log/SOG), and rates of turn, rather than the less accurate information provided by radar. A more complete picture of the events could be obtained by Voyage Data Recorder (VDR) data if available and maintained on board for details of the movement of the ship, voice communication and radar pictures during the accidents. However, VDR data are not maintained due to the limited twelve hours storage by IMO requirement.[5] Ocean currents estimates Ocean surface current estimates based on the analysis of AIS data have been available from French company, e-Odyn, since December 2015. Infrastructure protection AIS information can be used by owners of marine seabed infrastructure, such as cables or pipelines, to monitor the activities of vessels close to their assets in close to real time. This information can then be used to trigger alerts to inform the owner and potentially avoid an incident where damage to the asset might occur. Fleet and cargo tracking Internet disseminated AIS can be used by fleet or ship managers to keep track of the global location of their ships. Cargo dispatchers, or the owners of goods in transit can track the progress of cargo and anticipate arrival times in port. Statistics and economic the United Nations Statistics Division organized the AIS Data Week[6] to experiment with AIS data analysis and provide statistics to the UN Global Platform. It covered a number of use case studies by various statistical offices, and the AIS Handbook[7] was developed to capture the experience from this experimentation:

M.C.

¿Sabes cómo se conectan las diferentes aplicaciones para iPad al transmisor AIS local de mi barco?

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Pensando..

Sí, hay varias aplicaciones y dispositivos que pueden ayudarte a conectar tu iPad al transmisor local AIS (Sistema de Identificación Automática) de tu barco. Aquí hay algunas opciones:

Baliza para barcos: Esta aplicación le permite recibir y transmitir datos AIS usando su iPad. Proporciona seguimiento de barcos en tiempo real, advertencias de colisión y otra información AIS. Se conecta a la mayor red de receptores AIS en tierra del mundo_1.

iAISTX: Este es un transpondedor AIS de clase B que se puede conectar de forma inalámbrica a su iPad. Proporciona una alimentación inalámbrica de objetivos AIS y datos GPS a varias aplicaciones de cartografía marina como Navionics, iNavX y otras. Convierte tu iPad en un trazador de cartas con todas las funciones y superposiciones en tiempo real_2.

CONNECT-AIS: Esta aplicación permite que su teléfono inteligente o iPad se conecte de forma inalámbrica de forma segura a ciertos transpondedores AIS, los configure y controle su rendimiento.

Estas aplicaciones y dispositivos suelen crear una red Wi-Fi local a la que se puede conectar el iPad, lo que te permite recibir y mostrar datos AIS en tiempo real.

¿Tiene en mente un modelo o aplicación específica de transpondedor AIS?

Árbitros.

1-apps.apple.com_2-digitalyacht.net_3-support.em-trak.com_4-digitalyachtamerica.com_5-apps.apple.com+2

M.C.

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Pensando..

¡Bien! El AMEC Camino-108 es un popular transpondedor AIS. Para conectarlo a tu iPad, puedes seguir estos pasos:

Configure el Camino-108: Asegúrese de que su transpondedor AIS esté correctamente instalado y encendido. Consulte el manual del usuario para obtener instrucciones de instalación específicas.

Conexión Wi-Fi: El Camino-108 tiene Wi-Fi incorporado. Necesitas conectar tu iPad a la red Wi-Fi creada por el Camino-108. Busque el nombre de la red (SSID) y la contraseña en el manual del dispositivo o en el propio dispositivo.

Aplicación AIS: descarga una aplicación compatible con AIS en tu iPad. Algunas opciones populares incluyen:

Navionics: Ofrece cartas marinas detalladas y datos AIS en tiempo real.

iNavX: Proporciona una completa integración de gráficos y AIS.

Baliza para barcos: Permite el seguimiento de barcos en tiempo real y advertencias de colisiones.

Configurar la aplicación: Abra la aplicación y vaya a la configuración o a las opciones de conexión. Seleccione la red Wi-Fi creada por el Camino-108 y configure la aplicación para recibir datos AIS de la misma.

Pruebe la conexión: Una vez conectado, debería comenzar a ver datos AIS en su aplicación. Esto incluye información sobre embarcaciones cercanas, sus posiciones, velocidades y otros datos relevantes.

Si tiene algún problema, consulte el manual de usuario de Camino-108 o la sección de soporte de la aplicación que está utilizando. ¿Necesitas ayuda con un paso específico o tienes alguna otra pregunta?

M.C.

¿Cómo, con qué frecuencia y con qué protocolo, mi AIS camino-108 obtiene la información (vía canal VHF) de otros barcos de alrededor que se encuentran en su cobertura de 50nm?

BingAI

Pensando..

Tu transpondedor AMEC Camino-108 AIS recibe información de los barcos circundantes utilizando los siguientes métodos:

Frecuencia: AIS opera en dos canales VHF dedicados, concretamente 161.975 MHz (AIS1) y 162.025 MHz (AIS2). Estas frecuencias están designadas internacionalmente para la comunicación AIS.

Protocolo: AIS utiliza un protocolo llamado Acceso múltiple por división de tiempo autoorganizado (SOTDMA). Este protocolo garantiza que los transpondedores AIS coordinen automáticamente sus transmisiones para evitar colisiones y garantizar un uso eficiente de los canales VHF. Cada transpondedor AIS determina su propio horario de transmisión en función del tráfico circundante y de las franjas horarias disponibles.

Transmisión de datos: El transpondedor AIS de tu barco transmite y recibe continuamente paquetes de datos. Estos paquetes incluyen datos como la posición, la velocidad, el rumbo y otros detalles de navegación del barco. Los paquetes se actualizan reenviados a intervalos regulares, normalmente cada 2 a 10 segundos para los barcos en movimiento y cada 3 minutos para los barcos estacionarios.

Alcance: El alcance efectivo de la comunicación AIS puede variar, pero generalmente es de alrededor de 20 a 50 millas náuticas, dependiendo de factores como la altura de la antena, las condiciones climáticas y la presencia de obstáculos. Concretamente, el de Collserola en Barcelona que està a 380m de altura cubre perfectamente la costa norte de Palma de Mallorca como puede verse en la foto del Brunzent.

Mediante el uso de estas frecuencias y protocolos, tu trasponder, Camino-108 puede comunicarse de manera efectiva con otras embarcaciones equipadas con AIS dentro de tu área de cobertura, brindándote información en tiempo real sobre las embarcaciones cercanas.

¿Tienes alguna otra pregunta sobre su sistema AIS o su funcionamiento?