

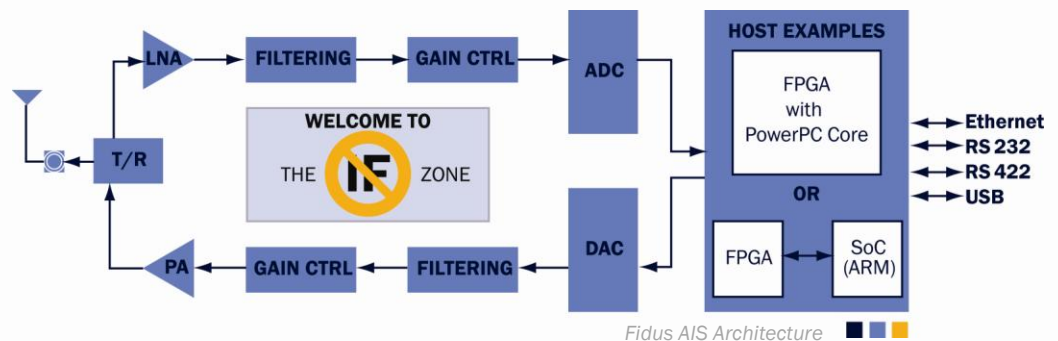
## Benefits

- **Customizable:** The Fidus AIS solutions can easily be embedded into your design to provide customized AIS functionality to all ranges of products.
- **Savings:** Proficiency in AIS technology takes several man years of design, training and field experience in AIS product development. Fidus offers customers the benefit of this specialized expertise and experience.
- **Access:** Customers benefit from the large investments in test equipment that Fidus has made.
- **Risk Mitigation:** The Fidus AIS solutions are proven and customers significantly reduce their risk of design delays or failure by using our proven building blocks.
- **Focus:** The Fidus AIS solutions allow you to focus on your core competencies and market.
- **Time-to-Market:** Customers significantly reduce their AIS-enabled product development cycles and reach their time-to-market windows.
- **Support:** Fidus has many years of assisting customers in meeting their product development needs. With in-depth expertise in AIS, the Fidus team can assist customers with any design issues they are experiencing with their AIS devices.

## Introduction

Fidus Systems offers a complete range of proven Automatic Identification System (AIS) technology, Intellectual Property (IP) and AIS Type solutions which minimize the cost, time and risk associated with developing a range of AIS products. Our AIS development team has in-depth RF expertise and extensive experience implementing AIS functionality into product designs. With Fidus supporting their design, our customers have the most competitive solution to meet their market needs.

The Fidus AIS design blocks cover three important areas: 1) Hardware Implementation, 2) FPGA-based signal processing and, 3) Software implementation. The Fidus AIS Architecture offers important reductions in cost, improved risk mitigation and faster time-to-market benefits for customers.



## Specifications

Our existing AIS solutions focus on Class B, Enhanced-Class B and Receive-only applications. Using the Fidus AIS design blocks customers also reduce their time-to-market for Class A, Aids to Navigation (AtoN) and Search and Rescue (SAR) designs.

## Hardware IP

### Customized functionality could include:

- TX/RX RF Analog Front-End with Power Amplifier, TX/RX DAC/ADC, Power sub-system, FPGA, CPU (currently PowerPC® or ARM™), 4.3" LCD Graphics Controller, GPS with powered antenna interface, etc.
- Interfaces: USB, Ethernet, RS422, RS232, Secure Digital, SmartCard Reader/Writer, Temperature Sensor, EEPROM, etc.
- An ultra-flexible direct sampling front-end.

| Element        | Description                             | Format           |
|----------------|---|------------------|
| Block Diagrams | Clear, easy to follow including MFR PNs | Visio            |
| Schematics     | Clear, easy to follow                   | Cadence OrCAD®   |
| Costed BOM     | 1k EAU bill of materials                | MS Excel         |
| Layout         | Customize or use as-is                  | Cadence Allegro® |
| Artwork        | Customize or use as-is                  | Gerbers/ODB++    |

## About Fidus

Fidus Systems Inc. develops electronic products for a wide range of industries including aerospace, defence, consumer, medical, industrial, semiconductors and telecommunications. Fidus has extensive design experience in turnkey product development and technical knowledge in:

- System Design & Architecture
- Wireless/ RF Design
- Signal Integrity/ EMC
- Hardware Design
- PCB Layout
- DSP/ FPGA/ CPLD Design
- Software/ Firmware Design
- Industrial/ Mechanical
- Prototype Design & Testing
- Regulatory Compliance
- Environmental and Reliability
- RoHS Compliance
- Component Obsolescence
- Cost Reduction

Fidus offers clients greater flexibility and capability in their product development with access to the expertise, process and tools to transform their concepts to products. Fidus has delivered on more than 750 products and projects for 180 customers across North America. For more information, visit [www.fidus.com](http://www.fidus.com)

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## FPGA IP

### Functionality includes:

TX/RX Level Control, Decimation, Channelization, Carrier Offset Compensation, Framing, Bit (de)Stuffing, Bit/Byte Reversal, Time Slot, Synchronization, FIFO Interfaces for CPU, SPI Slave Interface, etc.

| Element         | Description   | Format          |
|-----------------|---|-----------------|
| Source Code     | FPGA based DSP  | VHDL            |
| Test Benches    | For simulation  | VHDL            |
| MATLAB/Simulink | Pre-and-post implementation signal processing strategies, designs and simulations | MATLAB/Simulink |

## Software IP

### Customized functionality could include:

- NMEA Bridging, Web Server, Statistics Collection, Time Slot Synchronization, VDL Frame Mapping, Transmit Slot Selection, CRC Calculation and Validation, Graphics Display, SPI Master, System Supervision, etc.
- Interface configuration and support: USB, Ethernet, RS422, RS232, Secure Digital, SmartCard Reader/Writer, Status Indicators, Temperature Sensor, EEPROM, etc.

| Element     | Description   | Format |
|-------------|---|--------|
| Source Code | Currently running on ARM and PowerPC®, underlying OS optional | ANSI C |

## AIS Design Services

At Fidus our primary focus is to provide design services with the goal to enable AIS functionality into customers' product designs. Contact us to discuss how we can assist in your next AIS product design.



Class A



Class B



SAR



AtoN



Satellite



Custom

## Contact Us

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