

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

**Artisan Technology Group**
(217) 352-9330 | sales@artisantg.com | artisantg.com

**Full-service, independent repair center**
with experienced engineers and technicians on staff.

**We buy your excess, underutilized, and idle equipment**
along with credit for buybacks and trade-ins.

**Custom engineering**
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

**Expert team | Trust guarantee | 100% satisfaction**

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

**Visit our website - *Click HERE***

# ICE-A2D-r13

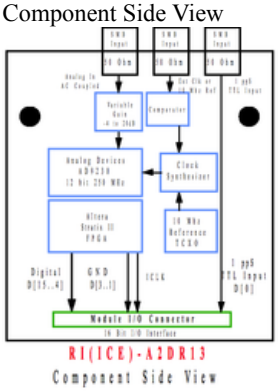
# ICE-A2D-r13

ICE Enterprises
Jump to: navigation, search
Analog to Digital Converter

**Notice:** End-of-Life has been announced for this product. It has been superseded by the ICE-A2D-M14. Please see End-of-Life for details.



Component Side View





Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

A2D-r13 Functional Diagram

The ICE A2D-r13 is a 12-bit A/D module for use with the ICE-PIC5 or ICE-PIC6 (recommended) series of high-speed interface cards.

Software selection allows for use of an onboard clock synthesizer or direct clock input at a user desired sample rate. The onboard clock synthesizer uses a 10MHz reference from either an external source (J2) or via an onboard oscillator (TCXO) with sub 1 picosecond jitter performance.

The A2D-r13 module incorporates an input variable gain stage, which allows for gain settings of -4 to +20 dB in 1 dB steps and is user-software controlled.

The use of external 10 MHz and 1 PPS reference signals allows for precision time stamping of digitized data.

## Contents


- 1 Features
- 2 Applications
- 3 Specifications
  - 3.1 Absolute Maximum Ratings
  - 3.2 Miscellaneous
- 4 Connector Information
- 5 Connection Description
- 6 Example Plot
- 7 Status


## Features

- Uses Analog Devices AD9230 A/D converter
- 12-bit resolution
- Up to 250 MSamp/sec
- 750mV p-p, AC-coupled input
- Ultra low jitter clock synthesizer
- 10 MHz onboard or external reference (software selectable)

ICE Enterprises, Inc. • 10302 Eaton Place, Suite 100, Fairfax, VA 22030
Phone 703-934-4879 • Fax 703-591-3048 • sales@ice-online.com • www.ice-online.com
DOCID-ICE-A2D-r13-2018212


Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

- Onboard input gain stage allows for software selection of between -4 and +20 dB of gain
- External 1PPS input for precision time stamp of data

# Applications

- Multichannel, multimode receivers
- Base station infrastructure
- AMPS, IS-136, CDMA, GSM, WCDMA
- Single-channel digital receivers
- Antenna array processing
- Communications instrumentation
- Radar, infrared imaging
- Instrumentation

# Specifications

## Absolute Maximum Ratings

| Parameter | Value | Units | Conditions |
|---|---|---|---|
| **Electrical** | | | |
| AVcc | 0 to 2 | V | |
| DVcc | 0 to 2 | V | |
| PPS Input | 0 to 5 | V | |
| External Clock Input | 0 to 6 | V | |
| Analog Input Power | 0.25 | W | |
| DC Current, Analog Input | 30 | mA | |
| **Environmental** | | | |
| Operating Temperature | -10 to +65 | Degrees C | |
| Storage Temperature | -40 to +85 | Degrees C | |

**WARNING: Operation of this module beyond any of these parameters may cause permanent damage. Exposure to absolute maximum ratings for extended periods may affect module reliability. Operation of the module beyond these specified parameters voids the factory warranty.**

ICE Enterprises, Inc. • 10302 Eaton Place, Suite 100, Fairfax, VA 22030
Phone 703-934-4879 • Fax 703-591-3048 • sales@ice-online.com • www.ice-online.com
DOCID-ICE-A2D-r13-2018212


Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

### Miscellaneous

| Parameter | Minimum | Typical | Maximum | Units |
|---|---|---|---|---|
| Analog Input | | 0 dBm | +3 dBm | dBm |
| Analog 3dB Passband | 5 | | 270 | MHz |
| External Clock Input[1] (AC-coupled) | 250 | 500 | 1100 | mV p-p |
| External Ref.[1] (AC-coupled) | 250 | 500 | 1100 | mV p-p |
| Analog Input Impedance | | 50 | | Ohms |
| Sample Clock | 40[2] | | 250 | MHz |

**Notes:**

1. Operation using external reference of 10MHz replaces the external clock input. Sample clock is then generated from the 10MHz reference.
2. Operation below 40 MSamp/sec is possible by over-sampling at 40MHz or above and then decimating the data.

## Connector Information

### Connectors

| | | | |
|---|---|---|---|
| Analog In, Clock In, PPS In | Emerson 131-1701-371 | Rt. Angle SMB Connector | S1, S2, S3, |
| Board Data Connector | Samtec QTE-020-03-F-D-A | 40-Pin Connector | H1 |

### Mating Connectors

| | | |
|---|---|---|
| SMB | Amp # 414946-1, or Huber Suhner # 11SMB-50-2-40 | |
| Board Data Connector (Mate) | Samtec QSE-020-01-F-D-A | 40-Pin Connector |

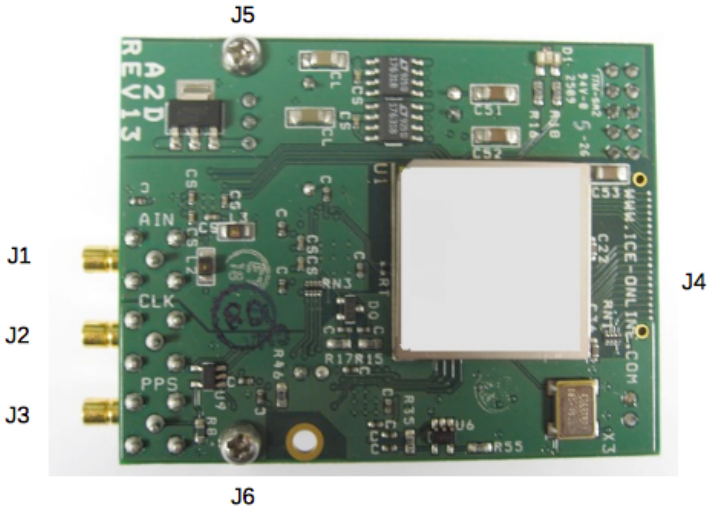
### ICE Interface Cables

| | |
|---|---|
| ICE-CAB-SB5 | 5 ft. BNC to SMB cable |

ICE Enterprises, Inc. • 10302 Eaton Place, Suite 100, Fairfax, VA 22030
Phone 703-934-4879 • Fax 703-591-3048 • sales@ice-online.com • www.ice-online.com
DOCID-ICE-A2D-r13-2018212


Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

# Connection Description



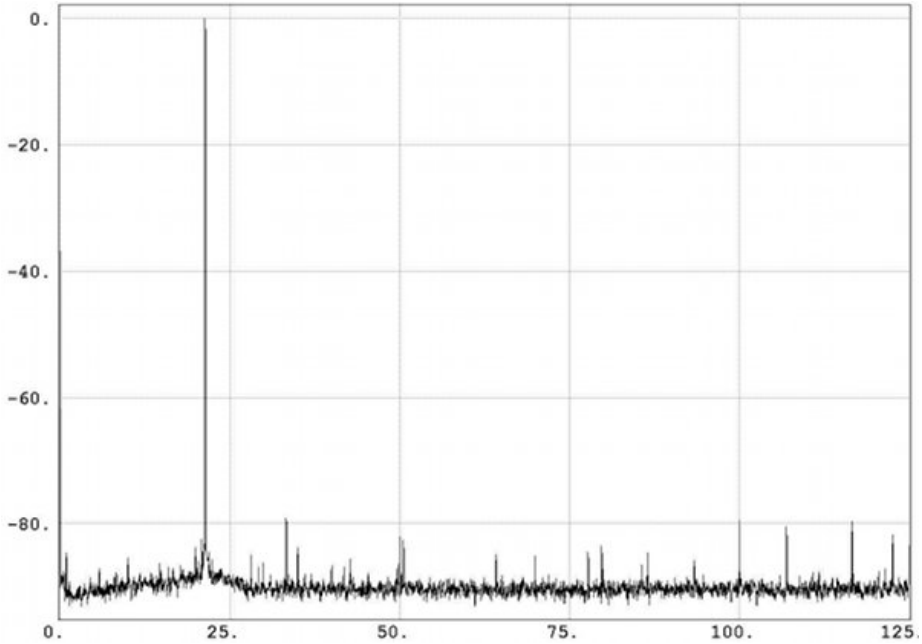

| Connection | Description |
|---|---|
| J1 | Analog Input |
| J2 | Clock Input |
| J3 | PPS Input |
| J4 | Connection to ICE-PIC Card (Connector on back PCB Board) |
| J5 | Retention Screw to standoff (1 of 2) |
| J6 | Retention Screw to standoff (2 of 2) |

ICE Enterprises, Inc. • 10302 Eaton Place, Suite 100, Fairfax, VA 22030
Phone 703-934-4879 • Fax 703-591-3048 • sales@ice-online.com • www.ice-online.com
DOCID-ICE-A2D-r13-2018212


Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

## Example Plot

- Single-tone performance
- Sample rate (MHz): 250
- Bits/Sample: 12
- Typical SFDR: >74dB
- ENOB: 12




## Status

EOL has been declared for this model: see End-of-Life for details. Please call for pricing and availability.

Retrieved from "http://wiki.ice-online.com/wiki/ICE-A2D-r13"
Categories: Analog modules | EOL

**ICE Enterprises**
Copyright © 2018 All Rights Reserved
sales@ice-online.com
support@ice-online.com
703.934.4879


Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

**Artisan Technology Group** is an independent supplier of quality pre-owned equipment

## Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

## We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

## Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP