

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.

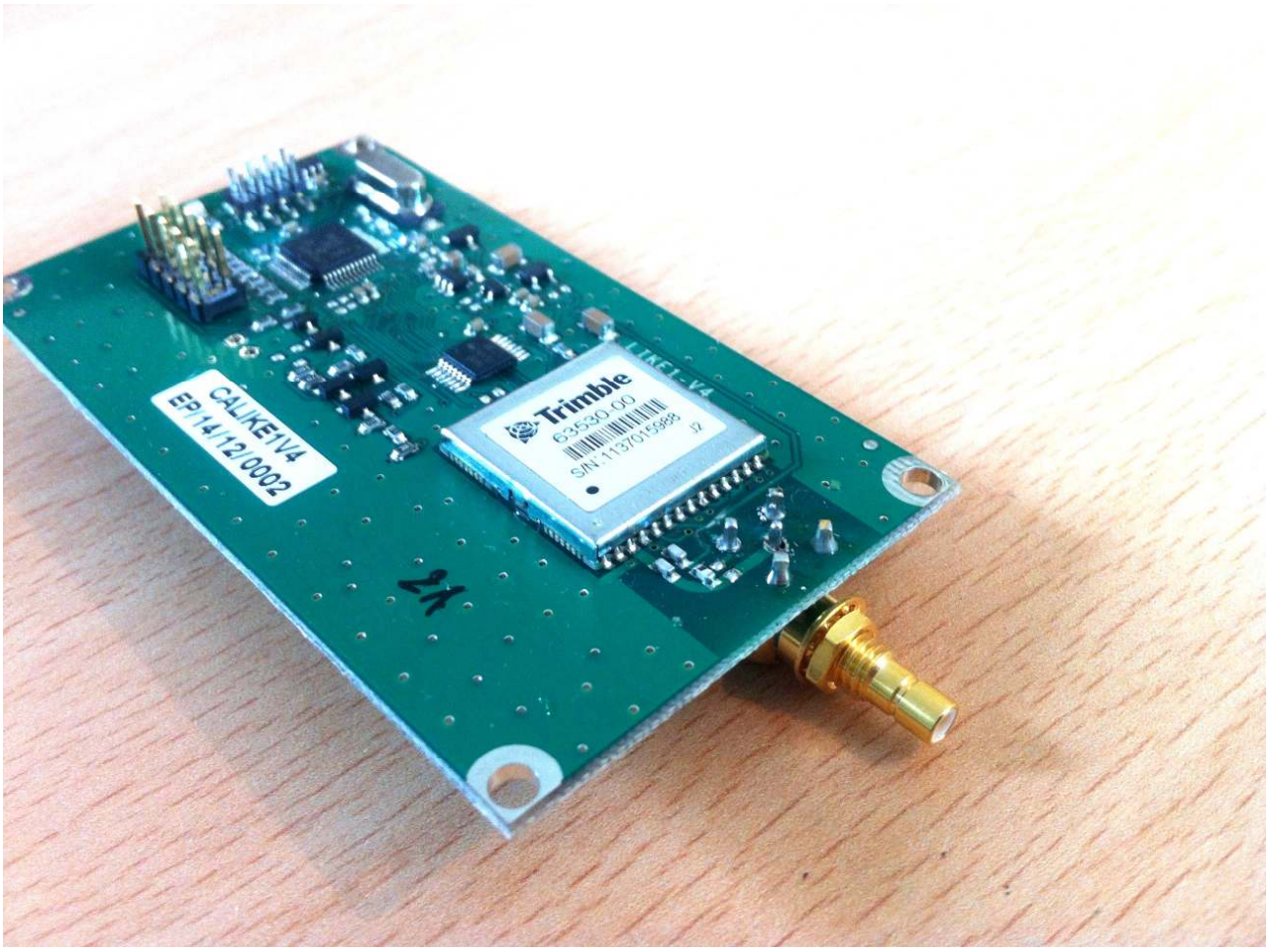
- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

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*

N024: Trimble ACE II/III clone, with GPS enhanced performance



The specifications in this document are subject to change without Notice.
Heol Design is not responsible for the operation or failure of operation of GPS satellites or the availability of GPS satellite signals.

1 Bd d'Armor – 22300 LANNION - FRANCE
Call: +33 (0)296 484 605
E-mail: contact@heoldesign.com
Copyright 2014 All Rights Reserved

HEOL DESIGN has produced a new GPS receiver board, the N024, which is based on the Trimble Copernicus II high performance GPS chip set. This OEM board is designed for use in embedded and industrial applications requiring high accuracy positioning and timing information. It can also be used as a replacement and upgrade for users of the Trimble ACE II / ACE III receiver board, as an ARM7 microcontroller has been added to adapt exactly to ACE II / ACE III protocol and port configuration.

ADVANTAGES:

- Ultra-high sensitivity of **-160dBm,** enabling high performance acquisition and tracking in urban canyon and signal obscured environments
- Cold Start Time to First Fix (TTFF) is quicker than **39s**, **3s** in hot start.
- Low power consumption: **80mA** @ 5V, with Power-Good LED.
- On port A, protocol and baud rate (with **ODD** parity) are compatible with ACE II / ACE III. Port B can be configured to suit other customer's requirements such as: input and output protocols (TSIP, NMEA, TAIP) and transmission speed.
- Pin to pin compatible with Trimble ACE II / ACE III GPS receiver; same form factor, for ease of integration.
- **Protection** against open and/or short circuit on the antenna (60mA), and alarms reported through serial port.
- **50V** overvoltage protection on Antenna input**.**
- Accurate pps (pulse per second signal), better than **±60 ns**. Polarity and pulse width are configurable, as well as propagation delay compensation when using long length antenna cables.

Performance characteristics:

Receiver		12 channels, -160dBm
Update speed		TSIP, TAIP, NMEA ⇒ 1Hz*
Accuracy	Horizontal	<2 meters (50%), <4 meters (80%)
	Altitude	<3 meters (50%), <5 meters (80%)
	Speed	0,06 m/sec (nominal)*
	Time (pps)	±60 ns
Initial acquisition time	Cold (Time to First Fix)	< 38 seconds (90%)*
	Warm start	< 35 seconds (90%)*
	Hot start	< 3 seconds (90%)*
Reacquisition signal after signal lost		< 2 seconds (typical)*
Altitude		< 18 000 m
Speed		< 515 m/sec maximum
Acceleration		4 g (39,2m/sec2)
Operating Temperature		-40/+85 °C
Storage Temperature		-55/+105°C

* Aerial field cleared

1 Bd d'Armor – 22300 LANNION - FRANCE
Call: +33 (0)296 484 605
E-mail: contact@heoldesign.com
Copyright 2014 All Rights Reserved

Electrical characteristics:

Prime power	5V option	4.5 to 5.5 VDC
	Power consumption	80mA
Backup power	5V option	3.2 to 5.5 VDC
	Power consumption	10µA typical
Antenna voltage		4.5 to 5V DC

EMC compatibility

The N024 board has successfully completed compliance testing against the following standards listed below: (In accordance with the CE directive).

- EN55022 class B (conducted and radiated emissions) dated January 1999, with 10dB margin.
- EN61000-4-3 published in 2002: "Immunity tests on electromagnetic fields radiated at radio-electrical frequencies", with 10V/m electromagnetic field.
- EN61000-4-6 published in February 1997: "Immunity tests on conducted interference, induced by radio-electrical fields".
- EN61000-4-4 (Immunity to rapid transients) dated June 1995, with 2kV transients.
- EN61000-4-2 (Immunity to electrostatic discharges) dated June 1995.

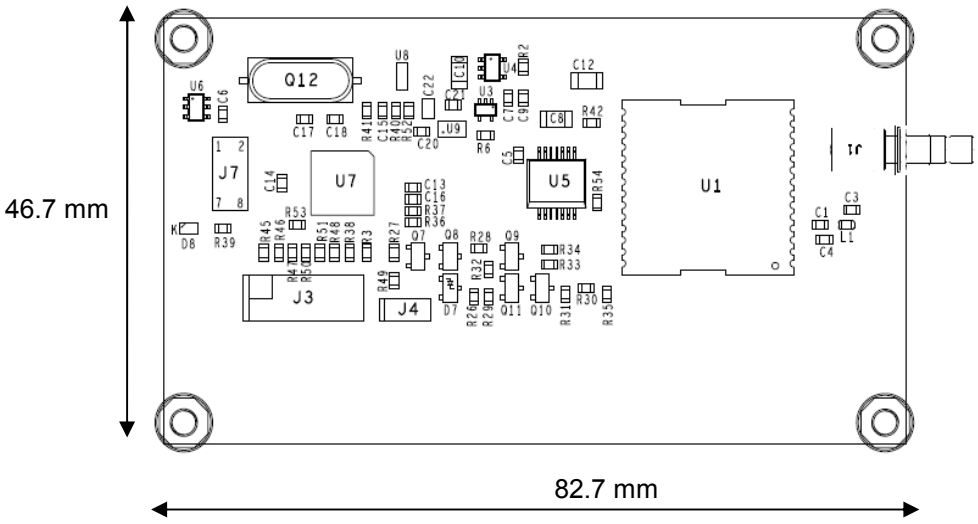
For Information:
The EN61000-4-3 standard is identical to the CEI 1000-4-3 standard and replaces ENV50140.
The EN61000-4-3 standard (see note A) is mentioned in the EN50082-generic standard for electrical and electronic equipment designed for use in industrial environments.

The NF EN61000-4-6 standard is identical to the CEI 1000-4-6 standard and replaces ENV50141. The EN61000-4-6 standard (see note B) is mentioned in the EN50082-2 generic standard for electrical and electronic equipment designed for use in industrial environments.

The HEOL-N024 board is RoHS (lead free) compliant.

1 Bd d'Armor – 22300 LANNION - FRANCE
Call: +33 (0)296 484 605
E-mail: contact@heoldesign.com
Copyright 2014 All Rights Reserved

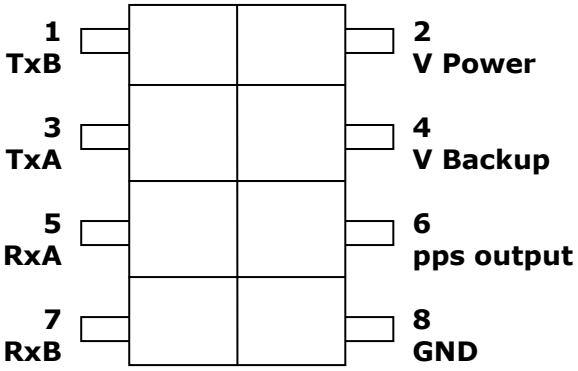
Mechanical characteristics:



Copyright 2014 All Rights Reserved

Connectors description

8 pin 2mm male header:



HEOL DESIGN can provide mother board in metal housing (with protected RS232/RS422 interface and power supply) for your applications upon request.

Antenna: Right angle SMB connector (factory configuration). Optional Fakra (automotive compliant), SMA and MCX connector is available upon request.

Note: the 10 pins of the programming connector can be cut if necessary (when power is OFF).

Factory settings of the serial ports

The two communication ports (5V TTL level) are set as standard as follows:
It can be easily modified to TSIP, TAIP, NMEA, and baud rate / parity.

Port A: (managed by microcontroller to adapt exactly to ACE II / ACE III protocol)

- Input: TSIP protocol, 9600 Baud, 8 bits, parity Odd, 1 stop bit.
- Output: TSIP protocol, 9600 Baud, 8 bits, parity Odd, 1 stop bit.

Port B: (connected directly to Copernicus receiver for supplementary features)

- Input: NMEA protocol, 4800 Baud, 8 bits, no parity, 1 stop bit.
- Output: NMEA protocol, 4800 Baud, 8 bits, no parity, 1 stop bit.

Copyright 2014 All Rights Reserved

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