Elena Geo

NavIC Timing Server

The NavIC Timing Server is a specialized solution developed by Elena Geo Tech to cater to Indian needs. This is a culmination of Elena Geo's effort from August 2021, whence we were identified by the Department of Telecommunication and were funded to develop NavIC timing circuits. Today, Elena has a complete range of Timing Devices starting from a Tabletop clock that uses the NavIC Atomic Clock to a full-fledged world standard timing server. Elena has an NTP server, clocks of various sizes, clocks with integrated voice announcements, timing devices for use in SCADA-based control and monitoring applications.

NavIC Timing Server launched on 4th April 2025
As part of "The NavIC Game Changer" event
at Royal Orchid Resort & Convention Centre, Bengaluru

Elena Card

Supports L1, L5

Powered by
Elena E1A Processor

NavIC Timing Server

Front view

Rear view

Elena Card

Supports L1, L5, S

Powered by
Elena B2D Module

This server is built using Safran's SecureSync 2400 motherboard through a cooperation agreement. The GPS processor onboard SecureSync is disabled and Elena's NavIC-based E1A processor/ C1A module/ B2D module is integrated. This has two versions, one supporting L1, L5 bands and another L1, L5 and S bands. The architecture enables an upgrade to this server in the field by the user to use newer NavIC signals when they are launched and available.

Why NavIC!

ISRO maintains one of the world's best clocks as part of NavIC Control Center. The reference of this is used to synchronize the clocks on board NavIC Satellites. This time is passed through the signals which are being used in the timing devices. Since NavIC satellites give us 24/7 coverage in the equatorial region unlike GPS, the time output is very stable and high precision. Additionally, the circuit need not use an onboard Rb Oscillator for maintaining stability, as the NavIC signal itself provides the necessary accuracy, ensuring high precision without the added complexity.

Features

1. **NavIC based:** Continuous availability, accuracy, reliability and integrity.
2. **Multi GNSS Support:** NavIC L5, NavIC S, GPS, GLONASS, Galileo, QZSS.
3. **Upgradability:** Can be upgraded to use new signals.
4. **Time Pulse:** Very sharp time pulse from Elena's E1A processor.
5. **Programmable Time:** Pulse width programmable from 15 ns to 100 µs.
6. **User-Friendly Interface:** Quick setup and operation.
7. **Timing Signal:** Pure sine wave output, 10 Mhz.

Applications

- Defence
- Military field operations
- Timing network
- Aviation - ATC
- Public Communication Networks
- Data Centers
- Disaster Response
- Navigation Support
- Power Grids
- Research and Development
- Surveillance and Reconnaissance
- Metrology

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New No 7, 1st Cross, 2nd Main, Ganganagar, RT Nagar, Bengaluru 560032, India

info@elenageo.com sales@elenageo.com www.elenageo.com

+91 9384864411 +91 9384864422