Elena Geo

NavIC Timing Server

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

Elena Card

Supports L1, L5
Powered by
Elena E1A Processor

NavIC Timing Server

Elena Card

Supports L1, L5, S
Powered by
Elena B2D Module

Front view

Rear view

This server is built using Safran's SecureSync 2400 mother board through a cooperation agreement. The GPS processor onboard SecureSync is disabled and Elena's NavIC based E1A processor/ C1A module/ B2D module is used. This has two versions, one supporting L1, L5 bands and another L1, L5 and S bands. The architecture enables upgrade to this server in 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 clock 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 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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