UrsaNav
Follow the Stars!

UN-152A eLoran Timing Receiver

Key Features

- Small size enclosure
- NMEA messaging
- Complete range of integration capabilities
- Software configurable
- Intuitive user-friendly graphic display software
- Loran-C, eLoran, Chayka
- Flexible SDR architecture

The UN-152A is a small form factor timing receiver that uses the latest version of UrsaNav's Mitigator™ series Low Frequency (LF) receivers. The UN-152A provides precise time, frequency, and data channel demodulation from Loran-C or eLoran systems. It features a serial port, a GPIO port and both 1PPS and 10MHz inputs and outputs. The receiver is capable of processing Chayka and other low or medium frequency sources.

The UN-152A meets the stringent European Telecommunications Standards Institute requirements for Primary Reference Clocks, the Stratum–I frequency requirements, and provides traceability of time to within 50 nanoseconds of UTC. Built-in future–proofing ensures capability to track next generation LF signals with advanced waveforms and enhanced data channel capability.

As solutions experts for LF Position, Navigation, Timing, Frequency, and Data technology; UrsaNav has you covered from transmission to reception. Our turnkey solutions include system design, timing and control equipment, advanced data channel techniques, and differential Loran reference equipment.

UN-152A Technical Specifications

PERFORMANCE

Timing

- **Timing Specifications:** ETSI EN300 462-6-1 / ITU G.811
- **Maximum Time Interval Error:** < 50ns from UTC; < 25ns for 100s intervals; < 100ns for intervals <1000s
- **Hold-over:** < 5 µs / 24 hrs
- **Timing source:** 1 to 3 radio transmitters with automatic handover

Positioning

- **Time to First Fix:** 30 seconds
- **Position Update Rate:** 1 Hz
- **Accuracy (95%):** 10-20m Stand-alone eLoran absolute positioning accuracy in differential eLoran mode
- **Stations tracked:** All in view

eLoran Engine

- **Sensitivity:** 30-120 dB µV/m
- **Dynamic range:** 96 dB
- **Signal Processing:** Band pass/notch filtering, cross-rate cancellation, moving average TOA integration
- **Loran Data Channel:** Eurofix, 9th / 10th pulse
- **Heading:** <1 degree with H-field antenna

ACCESSORIES

- Power cord, User Manual, ELEGANT user interface
- Optional UN-006 E-field antenna
- Optional UN-008 H-field antenna
- Optional Antenna Cable 5, 15, or 30m
- Optional External 5V power supply

PHYSICAL & ELECTRICAL

- **Dimensions:** 230x100x50 mm robust aluminum enclosure
- **Weight:** .7 kg
- **Input Voltage:** +5VDC (+/- 5%)
- **Power Consumption:** 14 W

INTERFACE

- Serial port (RS-232 level)
- 115200 baud
- NMEA Messaging
- GPIO Port
- 10 MHz frequency output
- 1 PPS eLoran UTC output
- 10 MHz frequency input
- 1PPS input
- Power and 1 PPS LEDs

ENVIRONMENTAL

- **Operating Temperature:** -40°C to +65°C
- **Storage Temperature:** -50°C to +75°C
- **Humidity:** 95% non-condensing

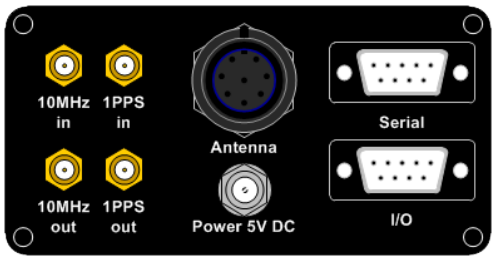
FEATURES

- Dual Core ARM/DSP Software Defined Radio
- Firmware upgradable
- On Board FPGA and flash memory
- Meets RTCM SC127 draft MPS spec
- Meets ETSI PRC requirements
- Meets Stratum-I frequency spec
- eLoran UTC recovery
- Full eLoran, Loran-C, Chayka capable
- Differential Loran capable
- Position, Frequency, Time & Data
- GNSS Integration ready
- Stand-alone, ASF and Differential Positioning

ELEGANT™

- User friendly intuitive GUI for Windows XP/7
- Allows monitoring, archiving and control of UN-151 series receivers
  - Time of Arrival trending
  - Position Scatter plot
  - Loran Data Channel display
  - Command interface
  - Replay of recorded data
  - FFT

Front View



Rear View

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*Specifications subject to change without notice.