# FASTRAK™ NG-224

## Wifi / Bluetooth / Cellular / S-UAS Search, Survey, Geolocation and Collection System

TSC offers a family of active and passive signals intelligence solutions providing detection, geolocation, collection, associated analysis tools, and protocol level electronic attack capabilities. These include the former Praxis Products (acquired by TSC in September 2021) FASTRAK™ products.

The NG-224 provides a significant leap forward in capability and flexibility by combining all the features from across the FASTRAK™ product line into a single package. With initial prototypes scheduled for customer delivery in CY2022 Q3, the NG-224 builds on the investment and capabilities introduced in the FM-208 family and Low-Vis platforms as the next generation of the FV-224 platform. The NG-224 offers the highest capacity and performance capability in the product line supporting simultaneous search, survey, and geolocation of WiFi and Bluetooth devices, collection of WiFi packets, cellular downlink survey and geolocation, and C-UAS functions. It can operate in active or passive modes and includes flexible RF distribution allowing simultaneous use of up to four antennas across multiple applications and signal sets. Internal bias-tees power external bi-directional and low noise amplifiers to reduce system set-up complexity while providing maximum system flexibility and operational standoff ranges.

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## FASTRAK™ NG-224 PLATFORM CAPABILITIES

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| **Simultaneous Multi-signal Capabilities** | • WiFi and Bluetooth<br>  – Passive survey, collection, and geolocation<br>  – Active precision geolocation<br>• 2G, 3G, 4G, and 5G cellular<br>  – Passive survey through Epiq Solutions Skylight<br>  – Passive downlink geolocation<br>• Active IMSI/MAC correlation (HotSpot 2.0)<br>• S-UAS (Lightbridge/OcuSync) through AFRL NINJA<br>  – Passive detection<br>  – Active mitigation |
| **Size and Weight** | • 9.25" W x 6.63" H x 15.43" L<br>• TBD lbs |
| **Power** | • ~250 W with internal battery backup |
| **Sensors** | • 2 next generation SDRs (Epiq Solutions NV100)<br>  – Each with two independent transceiver channels<br>  – 30 – 6,000 MHz tuning with 40 MHz bandwidth<br>• 24 passive WiFi SoCs and 2 active WiFi radios<br>• 9 active/passive Bluetooth radios for survey and geolocation |
| **RF Distribution** | • Route any antenna to any radio and transmit from any radio<br>• Configurable blanking and prioritization<br>• Internal bias-tees for external LNAs/bi-amps |
| **GPS/INS** | • Built-in GPS and interface to external INS/GPS |
| **Storage** | • Removable SSD |

Configurable blanking and prioritization enable effective coordination of simultaneous active and passive functions. The integrated SDRs support active stimulation and high-precision geolocation providing sub 20m accuracy with sub 10m accuracy possible while also providing cellular downlink survey and tower geolocation capabilities. This flexible platform is designed to support new missions targeting additional signals of interest, geolocation techniques, and other applications.

All FASTRAK™ hardware platforms run a common baseline of TSC's FASTRAK™ software. This software has been deployed on over 300 systems. Its modular and open architecture facilitate the incorporation of third-party applications and tools. Examples include the Air Force Research Laboratory's NINJA Counter-UAS application as well as capabilities developed by customers to target additional waveforms.

The supplied FASTRAK™User Interface (FLYT) provides a real time display of search and survey data along with the geolocation position estimates of all surveyed WiFi, Bluetooth, and cellular emitters. A replay capability allows post mission analysis of all logged data and packets. Advanced integrated analytics, reporting, and target alerting permits the user to quickly isolate key information. Export capability to PCAP/PCAPNG and other data formats facilitates analysis of stored information with third party tools such as ROVER or other applications providing a common operating picture. FASTRAK™ software also is capable of ingesting PCAP and other data from third party systems (e.g., Keyw Samuria, QRC QP, Rover Handheld, SWX, and SRT Landshark) to perform counter-surveillance "tail" detection as well as temporal and geographic correlation across multiple sensors.

TSC provides comprehensive training services customized to the needs of each customer, product, and mission. Instructor led training may include classroom instruction covering specific signal theory, kit contents and assembly, software upgrade procedures, user interface operation, and integration with complementary third-party analysis tools. Hands-on training exercising practical application of the technology in realistic environments with controlled or uncontrolled target devices is also offered. Training instructors include TSC personnel with intimate knowledge of the technology and intended application of the tools, but may also leverage third party training partners who bring previous operational experience and firsthand knowledge of user group TTPs. All products include lifetime technical support and software updates.

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## FASTRAK™ NG-224 PLATFORM CONNECTORS/FEATURES

- IP53 or better
- Front to back (quiet) airflow
- All connectors on front panel
  - RF & GPS: SMA-F
  - HDMI, RJ45, USB-A
  - Locking keyed power connector
  - Illuminated power button and mode switch
  - External INS/GPS connector
  - 1.8" removable SSD access
- Connectors recessed and protected by rubberized carry handle
- Rubberized front/rear bumpers for shock & vibration protection
- Rack-mountable via external mounting brackets (not shown)
- Top access to battery



*Production chassis concept pictured. Final production enclosure is subject to change.*

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