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CRANE DIVISION

NAVAL SURFACE WARFARE CENTER

Precise and Portable Antenna Test System PAPATS

Presented by
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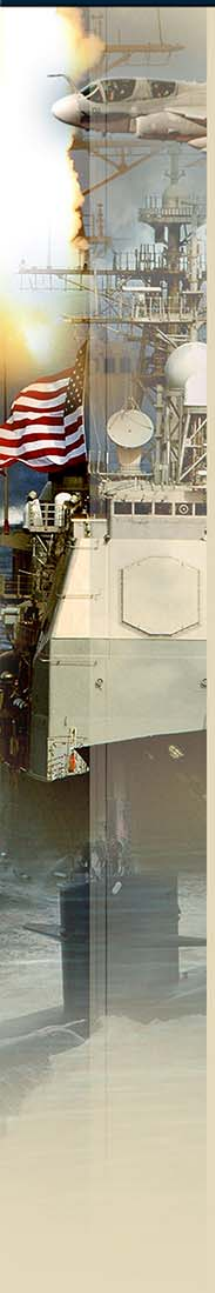
Patent Application:
 # 12/347,659 and # 12/121,346

TECHNOLOGY DESCRIPTION

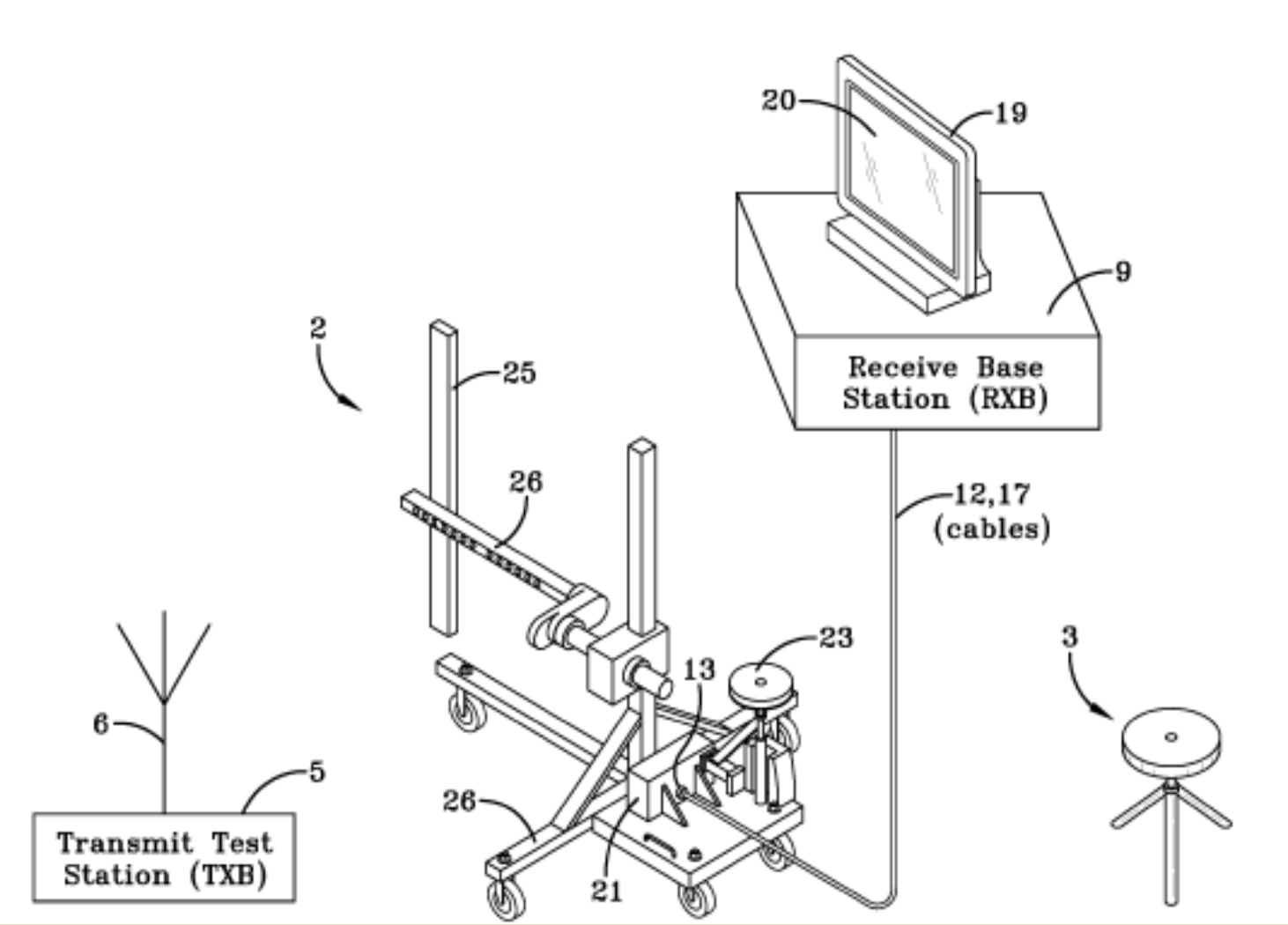


- **PAPATS**
  - **Precise And Portable Antenna Test System**
- **Hardware, software, and method to quickly and accurately measure antenna patterns in the field.**
- **Uses combination of:**
  - **Real Time Kinematic (RTK) GPS**
  - **Inertia Measurement Unit (IMU)**
  - **Real time position and orientation indication**
  - **RF data links**
  - **RF probe**

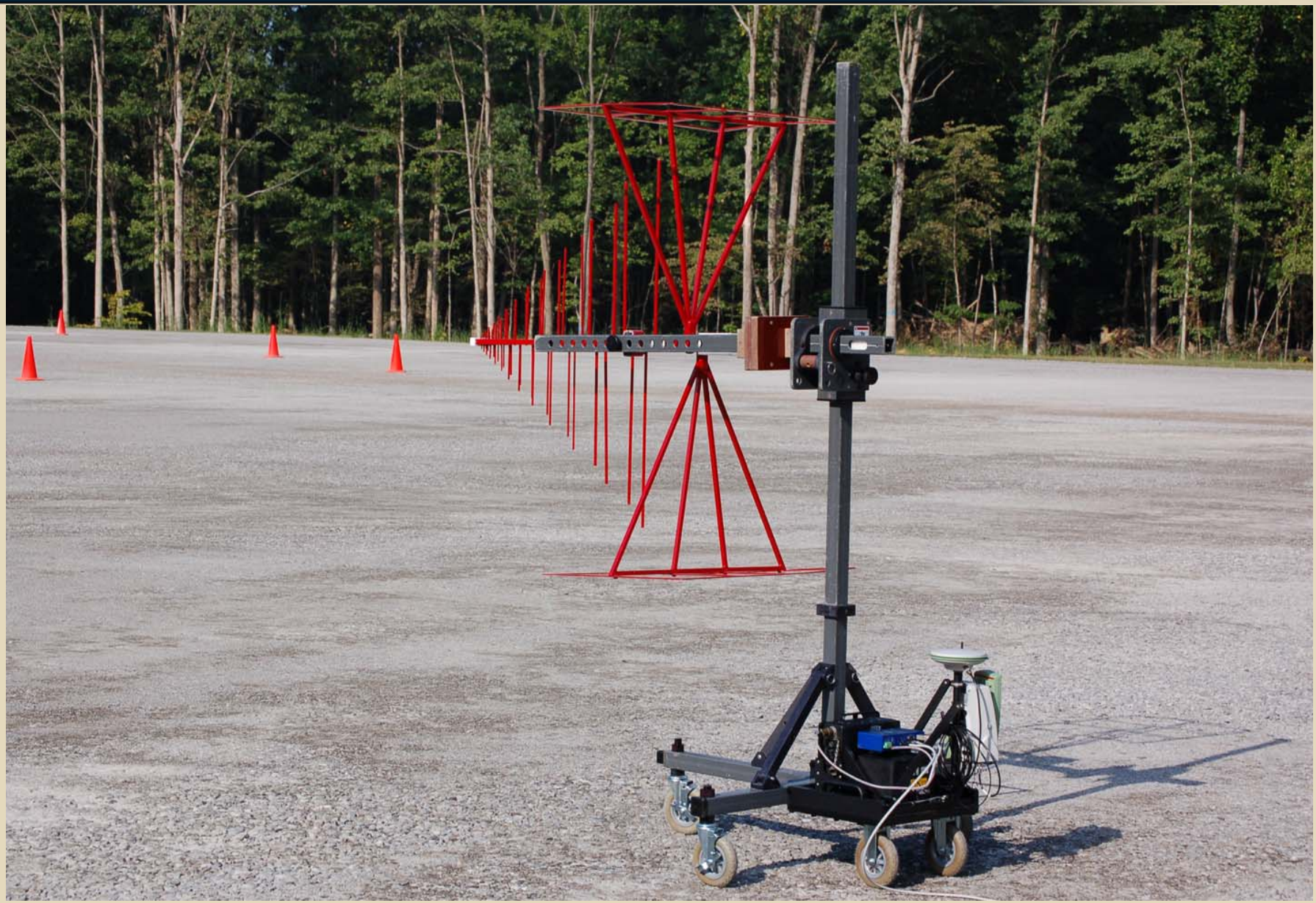
TECHNOLOGY DESCRIPTION

- **RF probe precisely and continuously located and orientated**
- **Inertial measurement unit provides pointing accuracy with 1/2 degree for probe correction and phase center positioning.**
- **RTK GPS provides location with 1 cm**
- **Probe offset corrections**

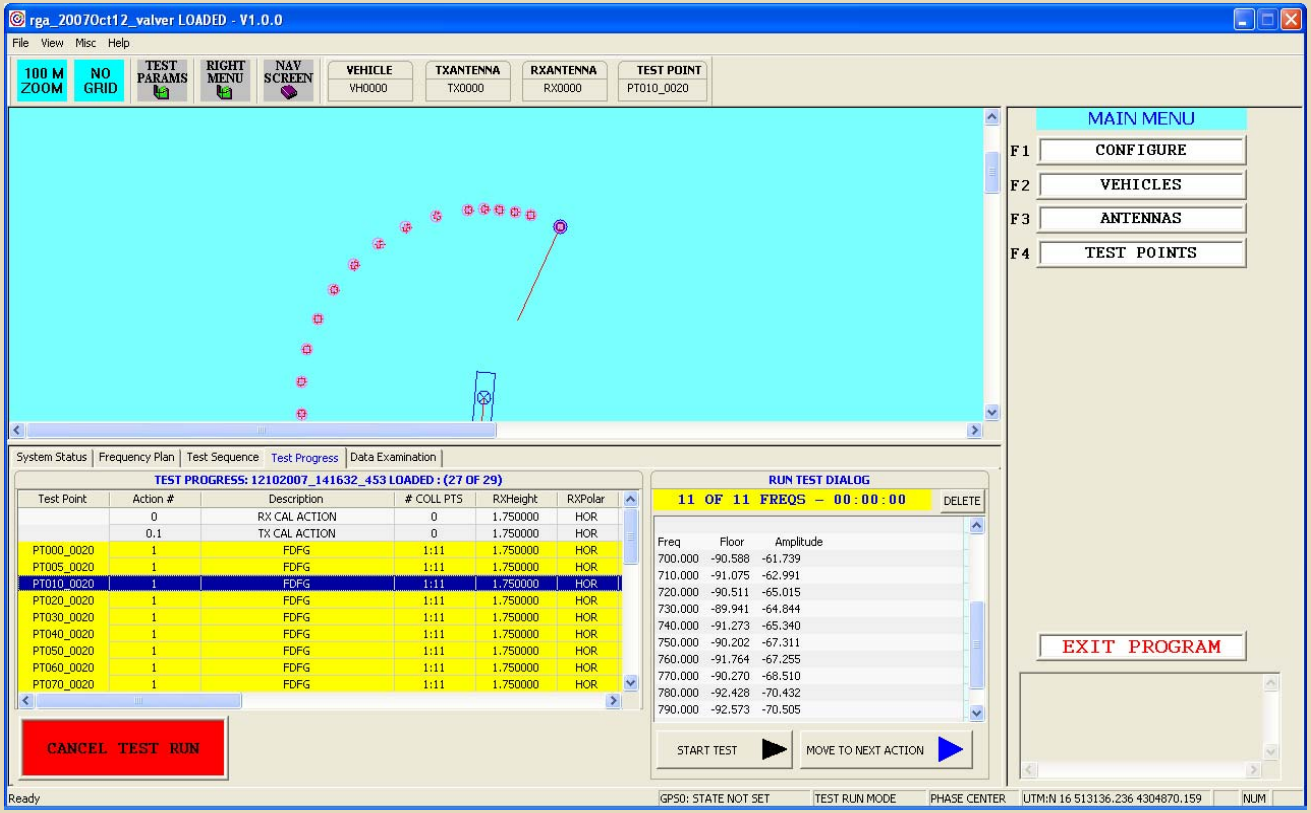
Diagram



Picture

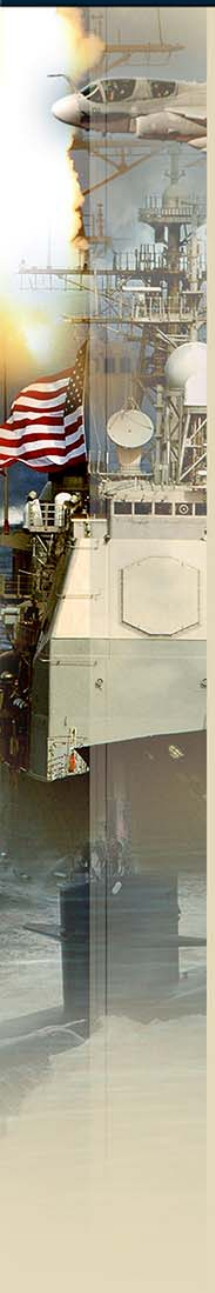


Interface



Screen showing desired test points, probe location and orientation, frequency lists, measured amplitude and noise floor, vehicle, test point list

COMMERCIAL APPLICATIONS



- **Find antenna patterns in real environment**
- **Define desired test points, record actual**
- **Correct for probe offset from GPS antenna**
- **1 cm horizontal location accuracy (2 cm vertical)**
- **0.5 degree pointing accuracy**
- **Other applications requiring precise probe location and orientation outdoors**