LABPRO GPS CONSTELATION SIMULATORS

NAVLABS

A COMPREHENSIVE SIMULATION ENVIRONMENT

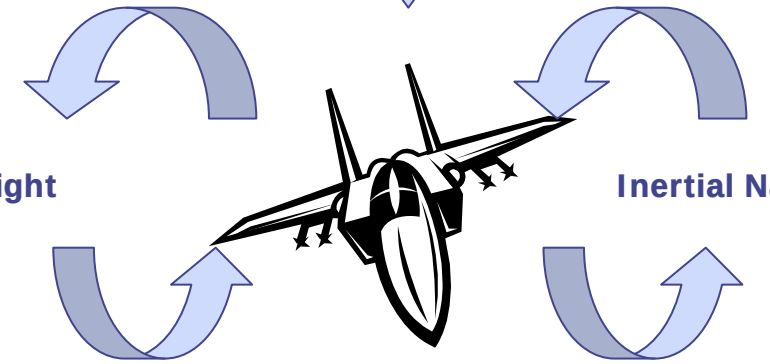
LEGACY

- L_1 CA
- L_1 L_2 CA P
- ANTENNA MODELS
- MULTIPLE RF OUTPUTS
- MULTIPLE VEHICLES
- MEVTP CERTIFIED

MODERNIZED

- L_1 L_2 P/Y
- L_1 L_2 M_{AES} SDS
- L_1 L_2 L_2C L_5
- ANTENNA MODELS
- MULTIPLE RF OUTPUTS
- MULTIPLE VEHICLES
- FLEX POWER
- MEVTP CERTIFIED

Global Positioning System



Realistic Flight

- BUILT IN MOTION GENERATION
- JOYSTICK / REMOTE CONTROL
- SCRAMNet CLOSED LOOP
- ETHERNET CLOSED LOOP
- IMPORT TRAJECTORIES

Inertial Navigation

- HG1700/SDLC
- LN-200 /SDLC
- AMRAAM

LEGACY

- WIDEBAND
- CW
- 36 dB DYN RANGE

SCENARIO BASED JAMMING

MODERNIZED

- WIDEBAND
- CW
- 80dB DYN RANGE
- 4 ELEMENT WAVEFRONT

Altimeter

- BARO
- LASER

Differential GPS

- RTCM 104
- SCAT-I,III
- GSSIP 153

INFO@NAVLABS.COM

FEATURES & CAPABILITIES

. 12 CHANNELS/ SATELLITES – EACH L_1 C/A L_1P L_2P] (2000)
. 14 CHANNELS/ SATELLITES - EACH L_1 C/A (1000)
. 16 CHANNEL/ SATELLITES - EACH L_1 C/A L_1P L_2P L_1M L_2M [Y] or L_1 C/A L_1P L_2C L_2P L_5 (3000-5000)
. 20 CHANNEL EMBEDDED GPS RECEIVER PROVIDES REAL-TIME MONITOR & OPERATIONAL STATUS
. ALL DIGITAL TO IF / NO CALIBRATION / NO INTERCHANNEL BIAS
. 4 RF OUTPUTS PER DIGITAL SIMULATION ENGINE – SCALABLE DESIGN COMBINES MULTIPLE ENGINES

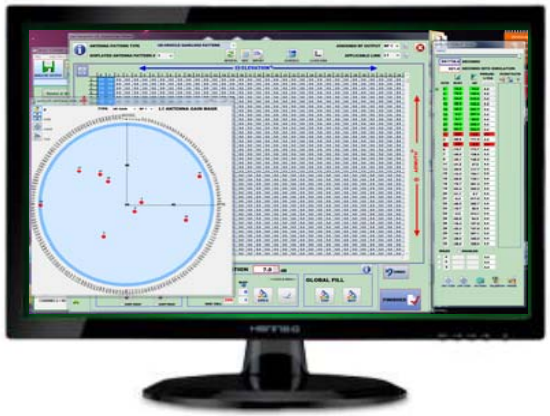
- SCENARIO BASED JAMMING VIA DEDICATED RF OUTPUT(S)
- PROGRAMMABLE 80 dB / 36 dB MODERNIZED / LEGACY SEPARATION
- UE ANTENNA MODELS / L1, L2,L5 ATTENUATION AND PHASE DELAY
- GPS BROADCAST ANTENNA MODELS / L1 L2 L5 , FLEXPOWER (MODERNIZED ONLY),
- SPOT BEAM (MODERNIZED ONLY), SLANT RANGE EFFECTS

- MEVTP CERTIFIED / BDR Y CODE APPROVED
- USCG UPLOADS, MEVTP ALM FILES
- DIRECT IMPORT OF RAW MEVTP FILES IN NATIVE FORMAT / ACCEPTS TRJ/CON/NAV/DES FORMATS
- ALL LEGACY, MNAV MESSAGES, MASTERFRAME/SUPERFRAMES, UPLOADS, CUTINS.
- 10 MHZ PHASE LOCKED OCXO OUTPUT / ACCEPTS AND LOCKS TO EXTERNAL 10 MHZ INPUT CLOCK
- SIMULATOR DATA SETS VIA DEDICATED ON BOARD PROCESSOR AND DATA PUMP (MODERNIZED ONLY)
- PROGRAMMABLE SUBFRAME 4 RESERVED DATA

STANDARD DELIVERY CONFIGURATION

4U INDUSTRIAL STEEL RACK CHASSIS

- 19" STEEL RACK MOUNT WITH HANDLES
- INTEL QUAD CORE / 1 TBYTE HD, WINDOWS XP / 7
- TAPESTRY SOFTWARE INSTALLED
- EXAMPLE SCENARIOS PROVIDED
- 20 dB N-TYPE RF ATTENUATOR
- DUAL CONNECT AC POWER CORD
- RF-CALIBRATION CERTIFICATE ATTACHED
- MONITOR 1920 X 1200 X 24"
- ILLUMINATED KEYBOARD, AMBIDEXTROUS MOUSE
- 1-YEAR WARRANTY AND TECHNICAL SUPPORT
- ONE DAY ON-SITE INSTALLATION & TRAINING

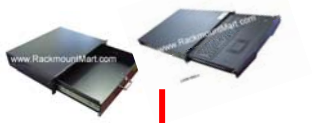


NAVLABS MARK II / V
CALIBRATION RF ___
L_1_____ L_2_____ L_5____
DATE_____
NEXT _____

OPTIONAL DELIVERY CONFIGURATION(S)

22U INDUSTRIAL STEEL ROLLING EQUIPMENT RACK

24" HIGH RESOLUTION
1920 X 1200 DUAL
DISPLAY.



2U PULLOUT
DRAWER/
KEYBOARD

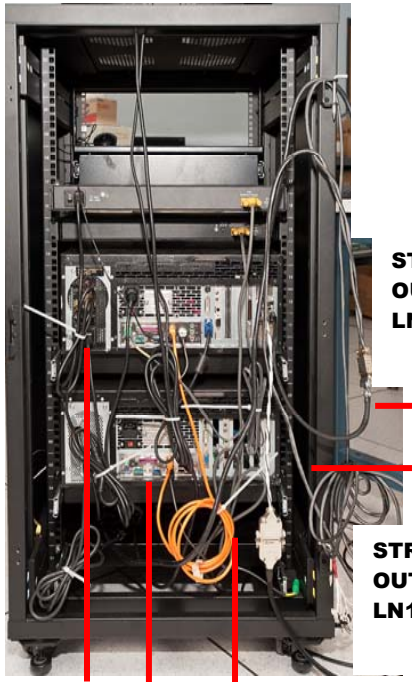
LABPRO
GPS SIMULATOR
CLOSED-LOOP
TWO VEHICLES,
DUAL-RF, DUAL-IMU

LABMATE
IMU & GPS
RECORDER & PLAYBACK

WHEELS

UPS

22 U / 38"



STRAPDOWN IMU A
OUTPUT [600 HZ]
LN1700/AE08

STRAPDOWN IMU B
OUTPUT [600 HZ]
LN1700/AE08

LABPRO

LABMATE

LABPRO / LABMATE
COMMUNICATION & CLOSED
LOOP INTERFACE

PERFORMANCE CHARACTERISTICS

Signals	**[MODELS 3000-5000] MODERNIZED** **L_1,L_2,L_5, SAASM, WAAS, MAES, SDS, GLONASS** **[MODELS 1000-2000] LEGACY L_1,L_2, WAAS**
Power Output	**Max ≈ -65 dBm to N F** **DYNAMIC RANGE** **MODERNIZED 90 dB / 0.5 dB step** **LEGACY 36 dB / 0.5 dB step**
Maximum Satellites Output	**16 L_1 C/A P M, L_2 C P M, L_5 PER RF-OUTPUT** **14 L_1 C/A LEGACY** **12 L_1 C/A P L_2 P LEGACY** **ADDITIONAL RF-OUTPUTS**
Internal Reference Oscillator	**PRECISION CUT OCXO** **1-PPS, SMA F , 10MHz IN/OUT [OPTIONAL LEGACY]**
Closed Loop Interface:	**SCRAMNet, Ethernet**
Remote Control Interface:	**GPIB, Ethernet, RS232**
Accuracy **MEVTP Certification**	**Pseudorange < 0.0004 m** **Pseudorange Rate < 0.0002 m/s** **Timing (1-PPS) ≈ 6 nsec**
Maximum Dynamics:	**Velocity 15,000 m/sec** **Acceleration 5,000 m/sec2** **Jerk 10,000 m/sec3**
Dimensions:	**19” x 7” (4U) x 25” Rack mount + handles**

COMPLIANCE STANDARDS

- **INTERFACE DOCUMENTS**

  ICD-GPS-200D
  ICD-GPS-705 IRN-705-002
  ICD-GPS-700 IRN-700A-003
  ICD-GPS-200C IRN-200C-005R1
  RTCA-DO-229C

- **TEST STANDARDS**

  MEVTP: MODERNIZED EVALUATION AND VERIFICATION TEST PROCEDURES 05-08-2007 + REVISIONS

- **AVIONICS DATA**

  STRAPDOWN INERTIAL MEASUREMENT UNIT
  - HONEYWELL HG1700/ SDLC
  - LN 200 SDLC / AMRAAM
  - GENERIC AMRAAM

  1553:
  - USAF: I-6 / I-11 / I-15
  - NAVY: I-8 / I-9 / I-10 / I-12
  - GRAM: I-27

  ARINC 429:
  - RTCA/DO 217 Special Category-I differential corrections
  - ARINC-743 supported labels:

203 – Pressure Altitude	204 – Barometric Altitude
210 – True Airspeed	310 – Latitude
311 – Longitude	314 – Heading