Scientific Development Squadron One (VXS-1)















VXS-1 Squadron Overview



- Formally Naval Research Laboratory Flight Support Detachment (NRLFSD)
- Commissioned by CNO Dec 2004
- Navy's "ONLY" S&T squadron
 - Provide airborne research laboratories to support Navy and other Government research projects
- 3 NP-3D and 2 RC-12F aircraft (New capability)
 - Currently investigating acquisition of Mid-range support aircraft
- POC's
 - Commanding Officer CDR Patrick Herring 301.342.3751
 patrick.herring@navy.mil
 - Executive Officer LCDR Garron Morris 301.342.3751 garron.morris@navy.mil
 - Special Projects Coordinator Mr. Sam Kogel 301.342.3256 samuel.kogel@navy.mil



Airborne Laboratories



2 Research Configured NP-3D's

- National and Navy S&T projects
 - NRL / USGS / NGA
 - ONR
 - Johns Hopkins APL
 - NSF / NOAA

• 1 AEW NP-3D

- E-2C HE2K/CEC configured
 - MDA
 - NAVSEA

• 2 RC-12's

- Smaller scale S&T projects
 - NRL
 - NAVAIR











RC-12F



- Up to 4.5 hours on station
 - 1000 Nmi range
- Up to three equipment/operator stations
 - 22" high single 19" racks
 - 400 lbs project weight capability
- Research Load Center
 - 28Vdc, 115Vac 60/400 cycle 20 amp
- Belly mounted projects radome
- Aircraft systems tie in
 - GPS
 - Altitude/heading/speed







NP-3D Aircraft



- Two full research configured interiors
- One AEW configured aircraft w/HE2K equipment suite
- Support World-wide independent operations
 - Rampant Lion Middle East
 - Antarctica Mapping
- Can dedicate up to 12 hours on station
- Operate at ranges up to 4,500 Nautical miles
- Operate at altitudes from 200 ft to 31,000 ft
- Equipped for extensive over water operations









Research Configured NP-3D



- Configurable Interiors
- Project/Research Electrical Load Centers
- Modified Bomb-Bay pallets
- 20" floor rails to accommodate up to 10 equipment/operator consoles totaling up to 4500 lbs total weight
- Support up to 11 project specialist on flights over 6 hours long
- Aircraft Navigational data access
- Wing wiring to support up to 10 external pod's
- Research configured nose/tail
- Project dedicated static pressure port
- Project Communication
- Lower sono-door system



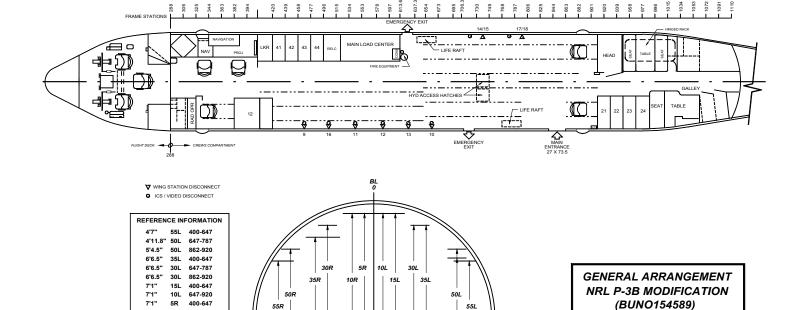






Research Configured NP-3D





COMPOSITE VIEW LOOKING AFT

7'1" 10R 647-920 6'6.5" 30R 647-920 6'1" 35R 343-405 5'4.5" 50R 647-920 4'9" 55R 343-405





Project Coordination



Technical

- Assistance in assuring projects meet Navy safety requirements
- Assistance in obtaining equipment flight certification and clearances
- Maintenance scheduling for project installation/de-installation
- Weight & Balance, Center of Gravity computations
- Assistance in developing aircraft interface, i.e. GPS, INS,
 Communications
- Operation of all Ground Support equipment

Project Sponsors

- Develop project equipment interfaces IAW Navy specifications
- Provide drawings, wiring diagrams, stress analysis, etc to VXS-1 to obtain flight certification/safety clearances
- Provide certified Project Specialists
- Assure Project Technicians adhere to VXS-1/Navy safety procedures



Questions?



