

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
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 - Executive Officer – LCDR Garron Morris – 301.342.3751
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 - Special Projects Coordinator – Mr. Sam Kogel – 301.342.3256
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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

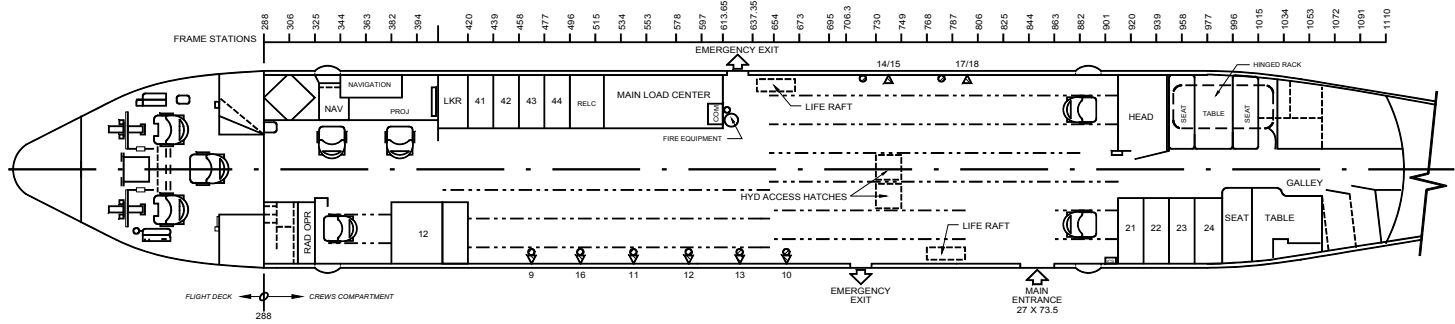


- Configurable Interiors
- Project/Research Electrical Load Centers
- Modified Bomb-Bay pallets
- 20" floor rails to accommodate up to 10 equipment/operator consoles totaling up to 4500 lbs total weight
- Support up to 11 project specialist on flights over 6 hours long
- Aircraft Navigational data access
- 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



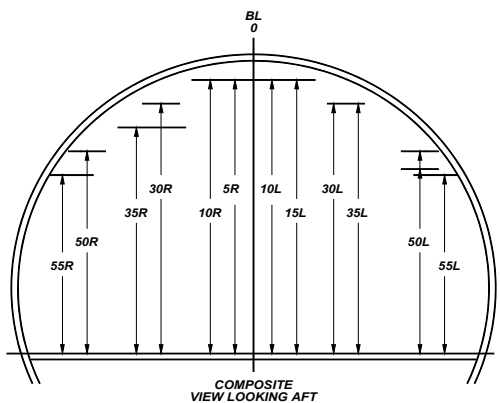


Research Configured NP-3D



- ▼ WING STATION DISCONNECT
- ICS / VIDEO DISCONNECT

REFERENCE INFORMATION		
4'7"	55L	400-647
4'11.8"	50L	647-787
5'4.5"	50L	862-920
6'6.5"	35L	400-647
6'6.5"	30L	647-787
6'6.5"	30L	862-920
7'1"	15L	400-647
7'1"	10L	647-920
7'1"	5R	400-647
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



**GENERAL ARRANGEMENT
NRL P-3B MODIFICATION
(BUNO154589)**





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?

