

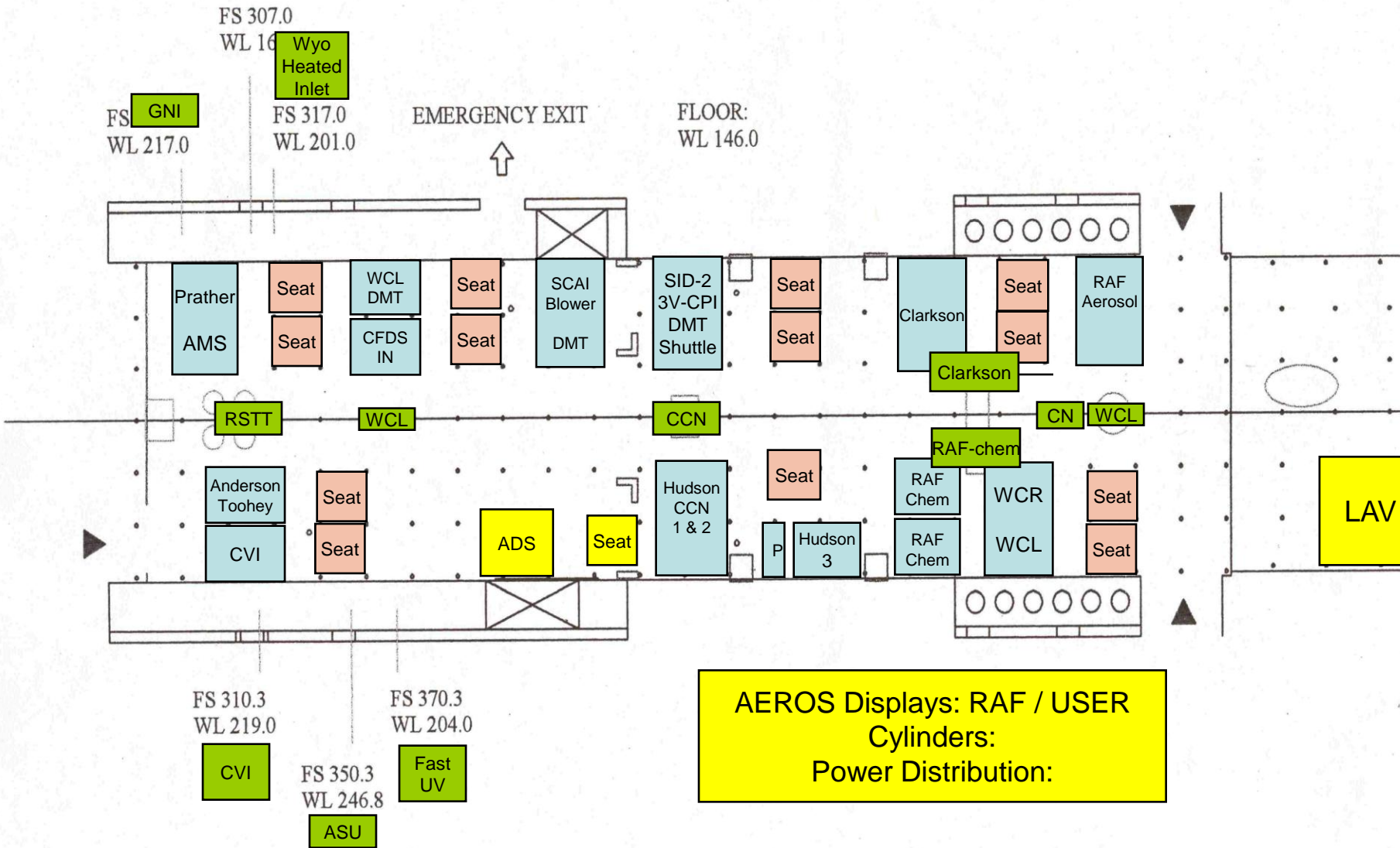
# ICE-T Payload & Performance



# C-130 Floor Plan FOR ICE-T

## 3/17/2011

External Inlets or structures



**AEROS Displays: RAF / USER**  
**Cylinders:**  
**Power Distribution:**

# Inlets / Apertures

- CVI – L1 / max 4
  - Anderson (2)
  - Prather (1)
  - DeMott (1)
  - DMT (1)
- Wyoming Heated – R2
  - Demott (1)
  - DMT (2)
  - Prather (1)
- GNI – R1
- ASU - L2 aft facing gooseneck
  - Streaker
  - Impactor
- UV Hygrometer – L3
- DRI CCN – Belly1: aft facing goose neck (1)
- RAF CN – BellyL: SMAI1
- RAF Chemistry – BellyL: aft facing goose neck (2)
- Clarkson – BellyR: SMAI2; Clarkson special; NASA

## ICE-T C-130 Payload

<i>Cabin &amp; Pod Instrumentation</i>		
<i>NCAR-supplied</i>	<i>University of Wyoming-supplied</i>	<i>User-supplied / Data Channels</i>
CVI / <b>PREDICT channels</b>	WCR – w/CMIGITS	Hudson: DRI CCN1-2 / none
Fast O3 / <b>PLOWS channels</b>	WCL-I	Hudson: DRI Cal / none
CO & CO2 / <b>WAMO channels</b>	WCL-II	DeMott: CFDC/ <b>1 serial string - 7 variables</b>
Manual GNI / <b>1 analog</b>	Aerosol Science / approved	Prather: TOF-AMS / none
UV Hygrometer / <b>3 analog</b>		Clarkson Aerosol / <b>15 analog; 2 cnts; net serial</b>
NCAR CN		Kok: DMT CCN-200 / pending / none
Remote surface & sky temps	Wyoming Heated Inlet / <b>5 analog</b>	Kok: DMT Polarized Aerosol Particle Spectrom / pp
Digital Video / fwd & dwn		Kok: DMT SP-2 / pending / none
King Probe & RICE		
OPHIR - in cloud temp / RWP		Anderson: ASU Filter Packs / <b>2 analog</b>
TDL Hygrometer / RWP		Toohey: Isotopic Water Analyzer / pending / none
<i>Wing Store Instrumentation - 9 maximum*</i>		
<i>NCAR-supplied (7)</i>	<i>Options (for 1 open slot): LPO</i>	<i>User-supplied (1) / status / Data Channels</i>
RPO: 2D-P - w/mods	Wind Gust Pod / needs GPS feed	LPI: DMT CPSD / pending / <b>serial</b>
RPI: 3V-CPI	HOLODEC-2 / cable conflict w CPSD	
LWI: CDP – w/mods	SID-3H / cable conflict w CPSD	
LPC: 2D-C-25 / NCAR tips	<b>SPP-300</b>	
RWI: SID-2H	PVM-100	
RWO: SPP-200		
LWO: SPP-100 / no shroud		

# C-130 Performance / ICE-T

- Research fuel load for 6 hrs (150,000 GW)
- Fuel Burn: 5000 lbs / hr
- Service Ceiling: 20 – 25 Kft with burn-off
- Std Turn Rate: 3 deg / s (360 deg in 2 min)
- Research Airspeed: 200 KIAS (~110 M/S)
- Rate of Climb:
  - SFC to 10 Kft: 1800 – 1500 FPM
  - 10 Kft to 15 Kft: 800 – 600 FPM
  - 15 Kft to Ceiling: 500 – 300 FPM

# C-130 Flight Operations

- Max Endurance 9 hours
- Range: 1800 nmi
- Descent Rate for good winds – 1000 FPM
- Limited FBO access in San Juan