1.0 Executive Summary

1.1 Scope
This ICD covers the interface between the Racks WBS 4.8.1 and the Vacuum Electronics WBS 4.6.2. The interface is physical and electrical, with Racks providing the space and power required for the Vacuum Electronics.

1.2 Responsibilities

<table>
<thead>
<tr>
<th>WBS</th>
<th>Represented by</th>
<th>Responsible for:</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.8.1</td>
<td>M. Ortega</td>
<td>preparing, maintaining, and approving ICD</td>
</tr>
<tr>
<td>4.6.2</td>
<td>E. Hamner</td>
<td>supporting and approving this ICD</td>
</tr>
</tbody>
</table>

1.3 Interface Diagram

<table>
<thead>
<tr>
<th>chk</th>
<th>Type</th>
<th>Location and Description</th>
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</thead>
<tbody>
<tr>
<td>3.1</td>
<td>✓ Physical</td>
<td>Vacuum Electronics are mounted in Racks</td>
</tr>
<tr>
<td>3.2</td>
<td></td>
<td>RF</td>
</tr>
<tr>
<td>3.3</td>
<td></td>
<td>Structural</td>
</tr>
<tr>
<td>3.4</td>
<td></td>
<td>Mechanical</td>
</tr>
<tr>
<td>3.5</td>
<td>✓ Electrical</td>
<td>120VAC and 24VDC power for electronics</td>
</tr>
<tr>
<td>3.6</td>
<td>✓ Thermal</td>
<td>Heat rejected into racks from electronics</td>
</tr>
<tr>
<td>3.7</td>
<td></td>
<td>Special Fluid</td>
</tr>
<tr>
<td>3.8</td>
<td></td>
<td>Signal</td>
</tr>
<tr>
<td>3.9</td>
<td></td>
<td>Other</td>
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</table>

Other

Other

Other

Other
2.0 Applicable Documents
Location B062-101  CAPTAR Database Rack Layout
Location B062-102  CAPTAR Database Rack Layout
Location B062-103  CAPTAR Database Rack Layout
Location B062-104  CAPTAR Database Rack Layout
IL 293-130-08     8-Pack Cable Tray and Equipment Layout

3.0 Interface Definition

3.1 Physical Requirements
Racks shall provide the 8-Pack racks B062-101, B062-102, B062-103, and B062-104, with required internal power distribution and cooling, for installation of electronic equipment and intra-rack cabling. Vacuum Electronics shall provide power supplies, interface chassis with cabling, and CAMAC crate and install in racks. Racks shall deliver pre-loaded racks to the NLCTA facility. The racks shall be located in the facility per drawing IL 293-130-08.

3.2 RF Requirements
None

3.3 Structural Requirements
None

3.4 Mechanical Requirements
None

3.5 Electrical Requirements
Racks shall procure racks. Racks shall install plugmolds and any other specified rack infrastructure in the racks per CAPTAR Rack Layouts Locations B062-101, B062-102, B062-103, and B062-104. Racks shall provide a separate 120VAC, 20A, protected circuit for each power supply chassis. Racks shall provide 2 circuits of 24VDC, 2A power to each interface chassis. Racks shall provide a separate standard 20A AC circuit for CAMAC crate and fan power, as needed for each CAMAC module. Racks shall paint and prepare the racks for installation, including any modifications. The database shall be assumed to be correct on Milestone dated 4/10/02. Racks shall then provide the racks to Vacuum Electronics in B024 for installation of electronic equipment.

Vacuum Electronics shall monitor and confirm that the CAPTAR Database for these racks is correct by Milestone dated 4/10/02. Vacuum Electronics shall install equipment in the racks per CAPTAR Database.
Racks shall deliver the racks to Building 062 ready for installation. Racks shall provide requirements for hoisting the racks into place. (Note: installation of the racks is expected to be performed by an electrical contractor under the purview of Cables.) After installation, Racks shall verify correct operation of rack infrastructure, such as electrical power and grounding.

3.6 Thermal Requirements
Each power supply shall provide filters and fans to maintain cleanliness in the chassis and to exhaust 250 watts of rejected heat from each power supply into the rack. Racks shall provide fans that will exhaust this waste heat from the rack and maintain a temperature in the vicinity of the power supply not to exceed 35°C. The CAMAC modules in the CAMAC crate requires cooling that will be handled by the standard CAMAC crate cooling fan system.

3.7 Special Fluid Requirements
None

3.8 Signal Requirements
None

3.9 Other Requirements
None

4.0 Verification
Placement of the Vacuum Electronics equipment in the racks and correct wiring will be verified by inspection against latest revision of the CAPTAR Database and CAMAC Database. Operational readiness of the racks shall be verified by Racks by electrical or other testing after installation.

5.0 Notes
TBD