# Interface Control Document

## RockSat-X Telemetry

**Revision:** 09-25-13

**Interface Type** | **Description** | **Specification**
--- | --- | ---
**Mechanical** | **Customers will be provided Analog/Digital (A/D), Asynchronous Serial, and Parallel links** | **Connector Type:** 37 Pin Cannon (D-Sub)  
**Gender:** Female (sockets)
**Electrical, Ground** | **Wallops will supply a current return ground connection** | **Pins:** 18, 19, 33*, 36 and 37 on RS-X Telemetry Connector  
**Max Current:** 1 Amp max per line *(Pin 33 is RS232 (asynch) ground)*
**Electrical, Not Connected (N/C)** | **The said connector will have unutilized pins** | **Pins:** 17, 34, and 35 on RS-X Telemetry Connector  
**Voltage/Polarity:** Floating  
**Max Current:** 0 Amps
**Electrical, Analog to Digital Converters** | **Wallops shall supply ten A/D lines to each full payload space** | **Pins:** 1 - 10 on RS-X Telemetry Connector  
**Voltage/Polarity:** 0 to 5 V  
**Resolution/Sample Rate:** 10 bits / 1 kHz  
**Active:** T+0.1 to T+6 minutes  
**Filtering:** None provided; highly encouraged  
**High impedance input:** Yes
**Electrical, Parallel Line** | **Wallops shall supply a single, 16 bit parallel line to each full payload space** | **Pins:** 11 - 16 and 20 - 29 and 30 on RS-X Telemetry Connector  
**Sample Rate:** >=5000 Hz  
**Data Bits:** Pins 11* - 16 and 20 - 29** (bits 1 - 16) *MSB **LSB  
**Data Bits Voltage/Polarity:** 0 to 0.8 V digital "low"; 2 - 5V digital "high"  
**Parallel Read Strobe/Direction:** Pin 30 Parallel Read Strobe (See: Next Sheet)/Output from WFF  
**Parallel Read Strobe Voltage/Polarity:** 2 to 5 V (nominal) "high"; 0 - 0.8 V (nominal) "low"
**Electrical, Asynchronous Serial** | **Wallops shall supply a single 8 bit asynchronous line to each full payload space** | **Pins:** 32 and 33 on RS-X Telemetry Connector  
**Protocol:** 8-N-1 RS-232  
**Logic 1 or "high":** 3 to 12 V relative to RS-232 GND  
**Logic 0 or "low":** -3 to -12 V relative to RS-232 GND  
**Baud Rate:** 19,200 kbs  
**Data Pin/Voltage:** Pin 32 on RS-X Telemetry Connector / Logic 1 or Logic 0  
**RS-232 GND Pin/Voltage:** Pin 33 = 0 V (nominal)