<table>
<thead>
<tr>
<th>Interface Type</th>
<th>Description</th>
<th>Specification</th>
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</thead>
</table>
| 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            | Willows 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 (async) ground) |
| Electrical, Not Connected     | 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 | Willows 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  
Filtering: None provided; highly encouraged  
High Impedance Input: Yes |
| Electrical, Parallel Line     | Willows 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: 31,000 Hz  
Data Bits: 11* - 16 and 20 - 29** (bits 1-16) *MSB **LSB  
Data Bits Voltage/Polarity: 0 to 0.8 V digital "high", 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      | Willows 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": 2 to 3.2 V relative to RS-232 GND  
Logic 0 or "low": -3 to -12 V relative to RS-232 GND  
Baud Rate: 10,200 bps  
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) |

* Customer Signature: [Signature]  
Date: 1/24/18