

Op Technologies  
15236 NW Greenbrier Pkwy  
Beaverton OR 97006  
Phone: 503-690-0800  
Fax: 503-690-8440

**Integrated System**  
**WH 300 with Sandia ADC**  
**Wire Harness Length**  
**Worksheet**



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Builder Phone:	Builder Cell:
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**Carefully Read All Instructions**

In order to build the wiring harness for your integrated system, we need to know the length of the runs to components shown in the following diagrams. It is recommended that you use a landscape tape measure (fabric) or a small rope to map out your component runs allowing for wire hold downs and routing around obstacles. Please be genius with your measurements- better to be a couple inches too long than too short. An overview wiring harness layout is also provided on the Third page to help you visualize the complete WH 300 harness.

Below are some questions and information that will help expedite the building of your WH-300 wiring harness.

What units of length did you measure in?  INCHES (IN)  FEET (FT)  MILIMETERS (MM)  
If two measurements are used clearly state where and which type.

Our **wiring harness** at this time does not support any devices other than those offered in our packages and is up to the customer to wire into the system and our displays any third party devices. **Note:** This does **NOT** mean that our displays don't support the third party devices, just the WH300 wiring harness.

**Any Alteration** such as military, bulk or pressurized connectors **MUST** be talked over and approved by Dexter Turner.

**Note** the Navigation Interface Unit (NIU) comes standard in your OP Integrated package, when you buy our navigation (3320) radio(s) and must be accounted for when you layout your navigation (3320) radio(s). It CANNOT be omitted.

Please fax or e-mail the completed worksheet to Op Technologies. Once we receive your completed worksheet we will review it, and if we have no questions we will notify you that your order has been put into the building schedule. From the time the harness worksheet goes into the building schedule it will depend on work load, but on average allow 3 to 4 weeks before the harness is completed and ready to be shipped out. Note: Once the building process has started any changes to the worksheet will delay the build time and additional charges will accrue.

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**Acronyms Defined**

<u>Acronyms</u>	<u>Definitions</u>	<u>(Manufacture)</u>
ADC/ENCD	Air Data Computer w/ built in Altitude Encoder (Sandia)	
AHRS	Altitude and Heading Reference System (Crossbow)	
CN	Connector (Data, Stack, AHRS)	
COM	Communication Transceiver (Becker)	
DU or DU's	Display Unit(s) (Op Technologies)	
EIU	Engine Interface Unit (VR or JPI)	
GND	Ground	
GPS	Global Positioning Satellite Receiver (GPS/WAAS Free Flight)	
Leads	No Pins or Connectors on Wires.	
MCP	Mode Control Panel (Op Technologies)	
(MM)	Measurement in Millimeters	
NAV	VOR/LOC/ILS/GS Navigation Receiver (Becker)	
NIU	Navigation Interface Unit (Op Technologies)	
PWR	Power	
RCP	Radio Control Panel (Op Technologies) (Not the Audio Panel)	
RS232	Type of Transmit Protocol	
Shield GND	Chassis Ground.	
XPDR	Transponder (Becker)	
"X"	out devices means the wiring harness will not contain this wiring for this device	
WSI	Satellite Data Receiver (WSI In flight)	

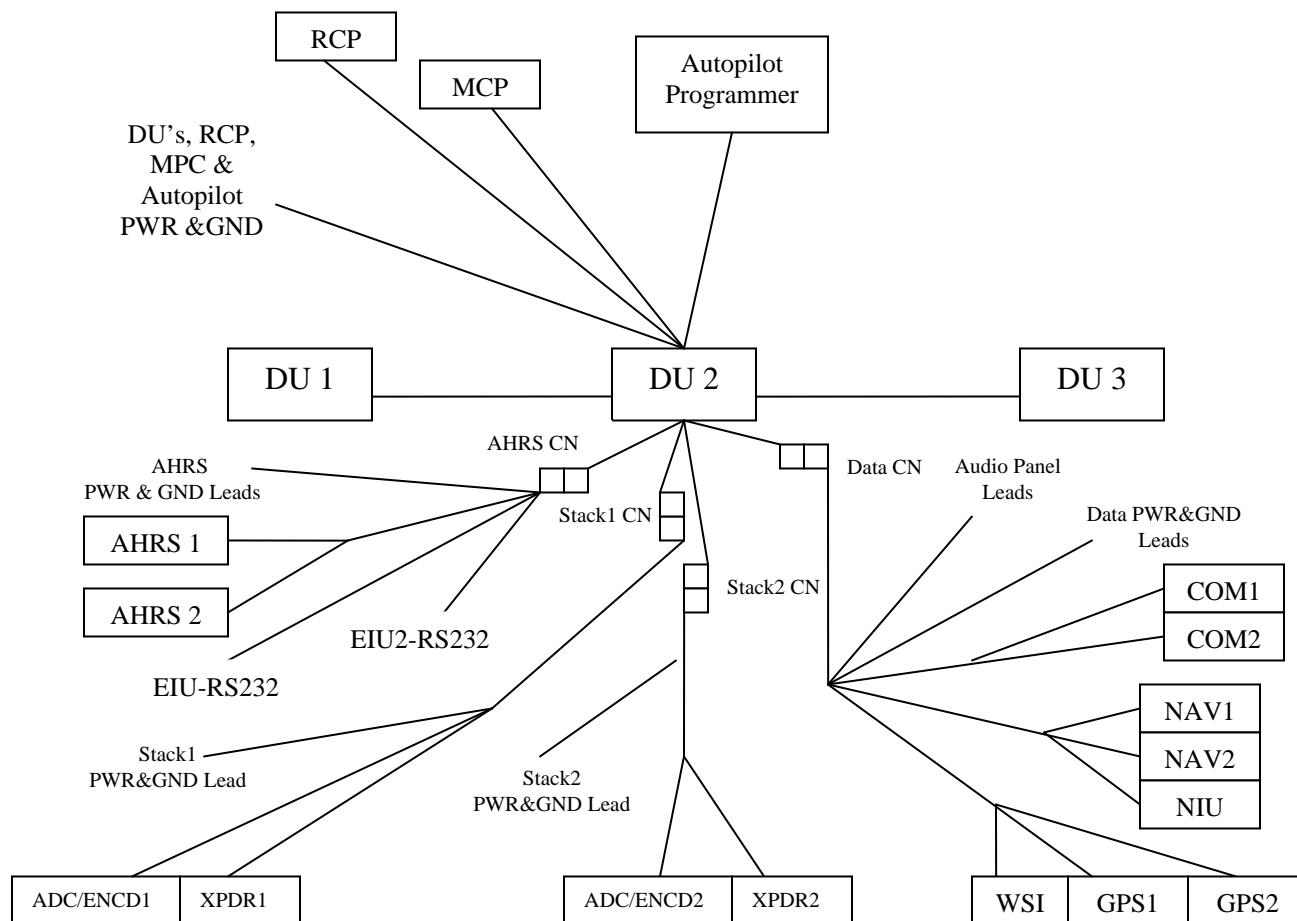
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**This is an overview layout of the complete Harness**

Layout is not to scale or actual to plane.



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**Section 1A: 2 Display Units (DU)**

- Complete this section if your installation has (2) display units (DU).
- “N/A” values for devices not being used.
- All PWR/GND leads will be 3 feet or 915 mm long if not stated.
- Measure Dimension A from center to center of mounting rack connector cutouts.
- A is the center point between DU 1 and DU 2 where dimensions B, C, D and E must be measured.

Dimension	Value	Notes
A		
B		
C		
D		

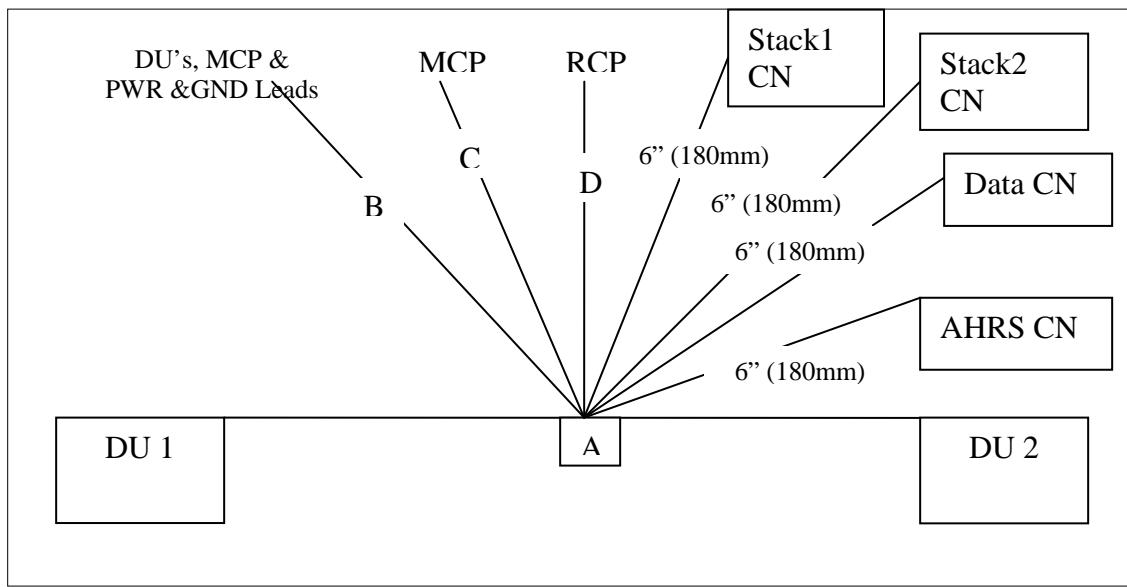


Fig 1: Dual Display Wire Harness Layout

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**Section 1B: 3 Display Units (DU)**

- Complete this section if your installation has (3) display units (DU).
- “N/A” values for devices not being used.
- All PWR/GND leads will be 3 feet or 915 mm long if not stated.
- The center of mounting rack connector cutout on DU 2 is the measuring point for dimensions “F-H”.
- For “E” and “I” measurements, measure from center of display connector cutout to DU2’s center of display connector cutout.
- NOTE: Dimension “J” Can’t be made any shorter than 8”.

Dimension	Value	Notes
E		
F		
G		
H		
I		
J		

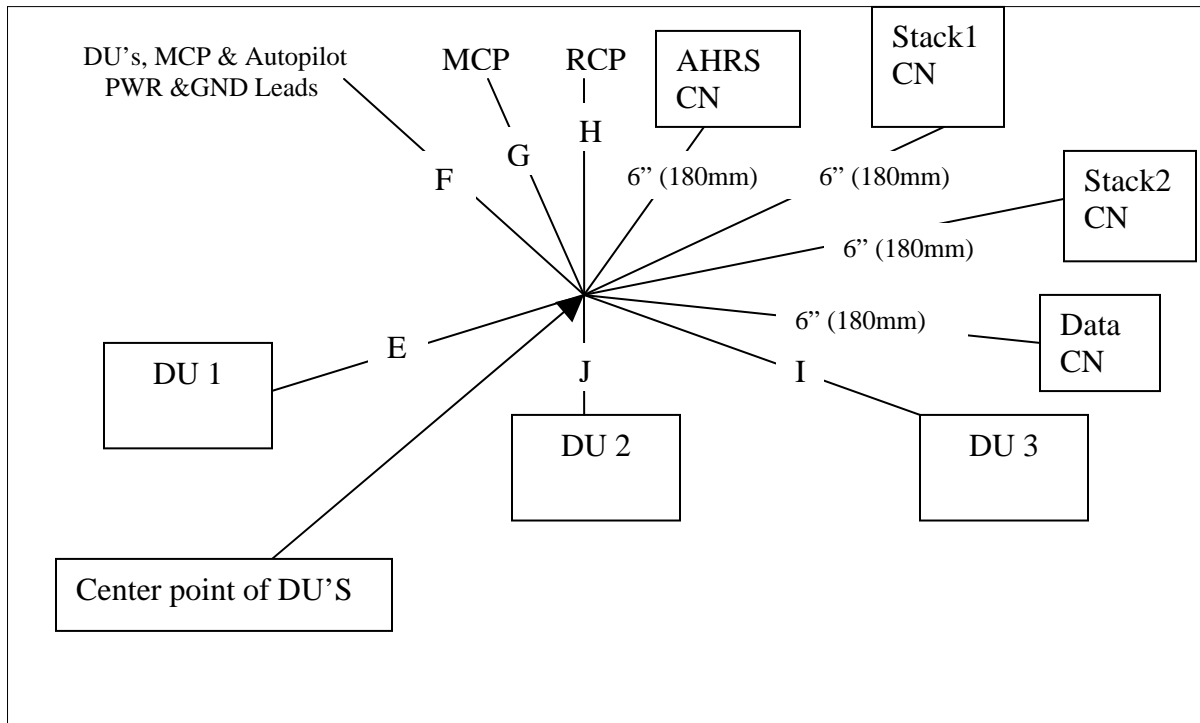


Fig 2: Triple Display Wire Harness Layout

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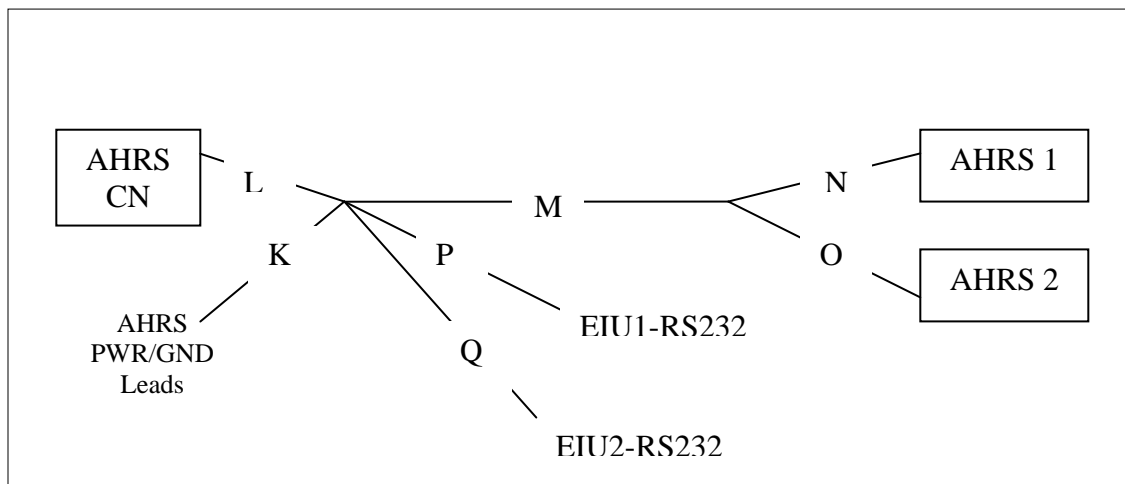
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**Section 3: Attitude Heading & Reference System (AHRS)**

- “N/A” values for devices not being used.
- PWR/GND leads will be 3 feet or 915 mm long if not stated.
- PWR/GND leads will be 3 feet long if not stated.
- Dimension “L” can not be less than 6” or 180mm.
- ONLY fill in dimension, “O” if two AHRS will be used.
- ONLY fill in dimension, “Q” if two EIU’s will be used.

Dimension	Value	Notes
K		
L		
M		
N		
O		
P		
Q		



**Fig 4: AHRS Wire Harness Layout**

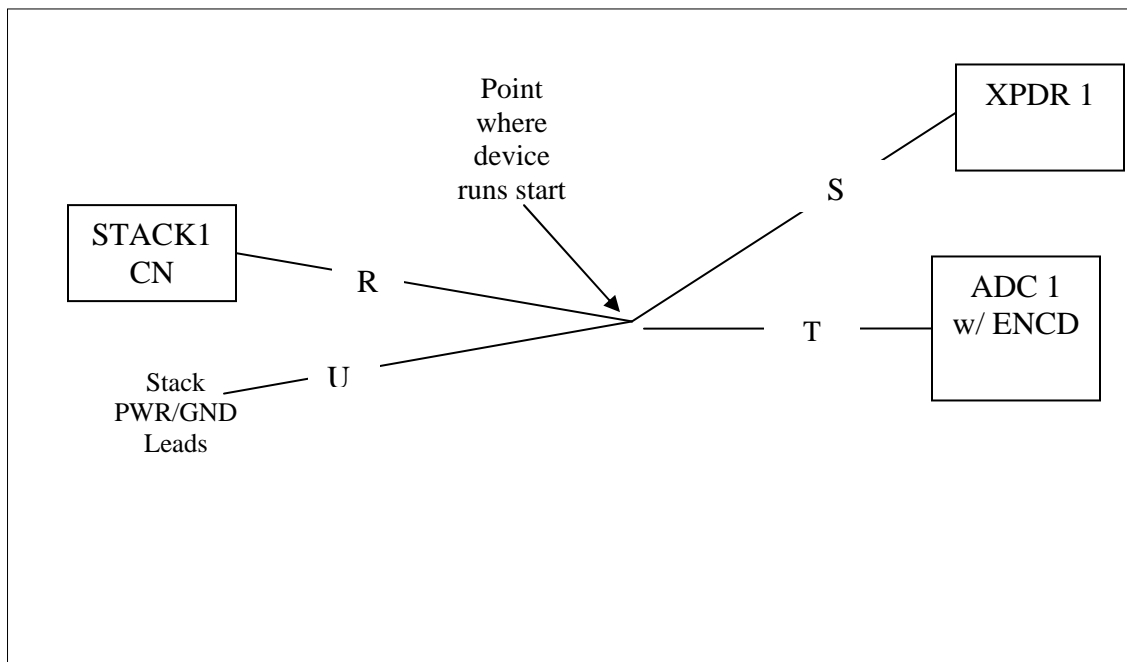
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**Section 4: For 1<sup>st</sup> Transponder & Fuel Air Data Computer/ Encoder (Stack 1)**

- “N/A” values for devices not being used.
- PWR/GND leads will be 3 feet or 915 mm long if not stated.
- Dimension “R” can not be less than 6” or 180mm.

Dimension	Value	Notes
R		
S		
T		
U		



**Fig. 5: Stack 1 Wire Harness Layout.**

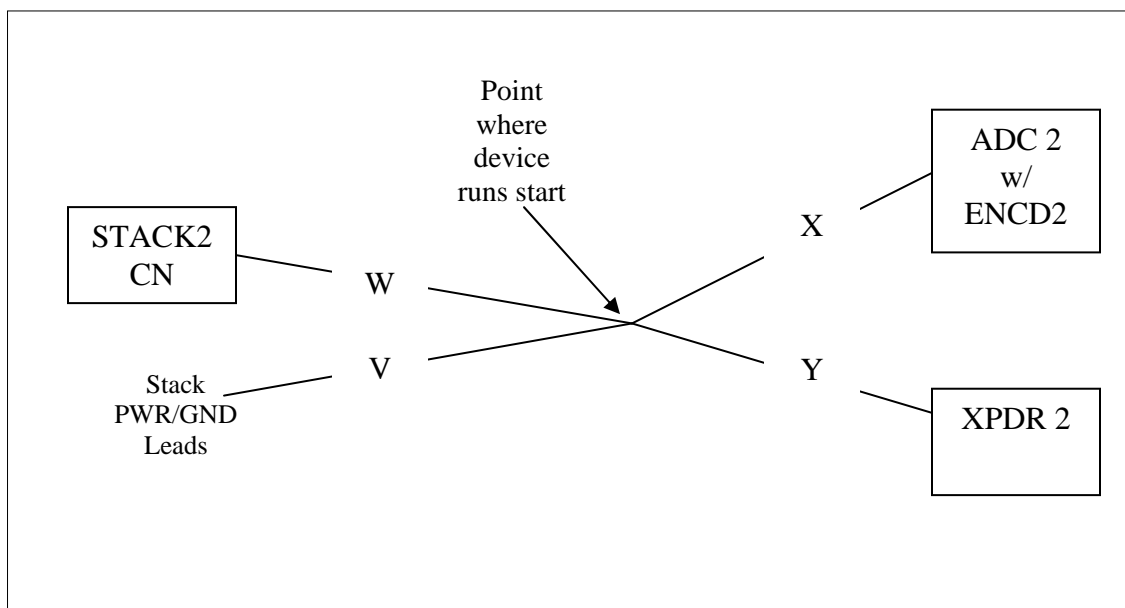
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**Section 4: For 2<sup>nd</sup> Transponder & Fuel Air Data Computer/ Encoder (Stack 2)**

- “N/A” values for devices not being used.
- PWR/GND leads will be 3 feet or 915 mm long if not stated.
- Dimension “W” can not be less than 6” or 180mm.

Dimension	Value	Notes
V		
W		
X		
Y		



**Fig. 5a: Stack 2 Wire Harness Layout.**

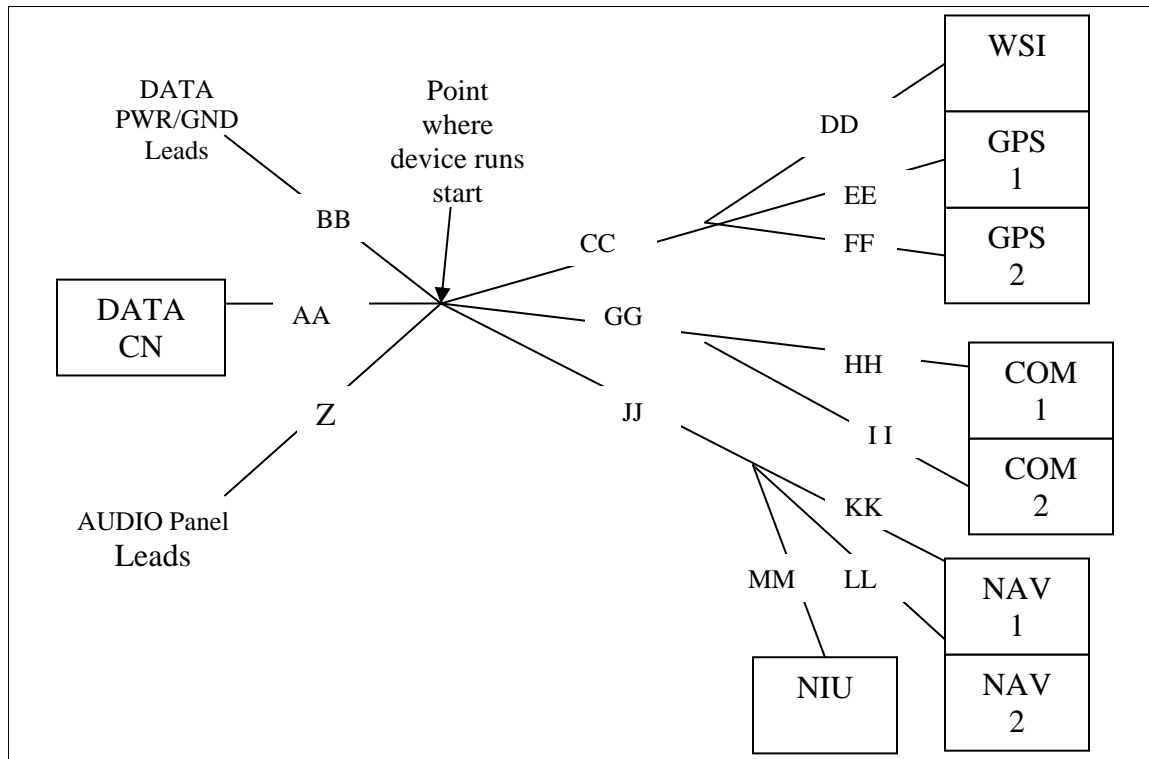
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**Section 5: (Data) Avionics Bay Extension**

- “N/A” values for devices not being used. (Note the NIU Unit is Standard, see page one for details)
- PWR/GND and Audio leads will be 3 feet or 915 mm long if not stated.
- Dimension “AA” can not be less than 8” or 240 mm.
- Measure from center point to each device.

Dimension	Value	Notes
Z		
AA		
BB		
CC		
DD		
EE		
FF		
GG		
HH		
II		
JJ		
KK		
LL		
MM		



**Fig 6: (Data) Avionics Bay Extension Harness Layout**