



## **Horizon HX Wiring Supplement**

**For units shipped after January 8, 2013**

Applies to single or multi-display systems with single or dual AHRS and the following Wiring Harness Part Numbers:

CAB-HX-KIT-01 (CAB-HXA-01, CAB-HXB-01 and CAB-ARINC-HX)

CAB-AHRS-01

## Connector A Pinout Diagram

Connector A is a 25-Pin D-Sub female connector that attaches to the male EFIS 25-pin D-sub. Pins that are most likely to be used are pre-installed in the connector at GRT. Commonly used optional wires are supplied as loose wires. Wire colors and devices assigned to serial ports are suggestions only. See HXr Interconnect Diagram for suggested system connections. NC denotes No Connection inside display unit.

Pin		Function	Wire Color
A1		Serial 6 OUT	
A2		Serial 1 OUT	
A3	▽	Serial 5 OUT	BLU
A4		Serial 2 OUT- AHRS 1 OUT (Note 2)	BRN
A5	▽	Serial 4 OUT	YEL/WHT
A6		NC	
A7		NC	
A8		NC	
A9		NC	
A10		NC	
A11		NC	
A12		NC	
A13		NC	
A14	⇒	Primary Power IN	RED
A15		Secondary Power IN	
A16		Third Power IN	
A17	⇒	Ground	BLK
A18	▽	GPS Memory (Note 1)	RED/WHT
A19		Serial 2 IN- AHRS 1 IN (Note 2)	YEL
A20		Serial 1 IN	
A21	⇒	Serial 4 IN - EIS IN (Note 3)	GRN/BLK
A22	▽	Serial 5 IN - GPS	YEL/BLU
A23	▽	Serial 3 IN	GRY/RED
A24		Serial 6 IN- Redundant AHRS (Note 2)	YEL/GRY
A25	▽	Serial 3 OUT	GRY/BLK

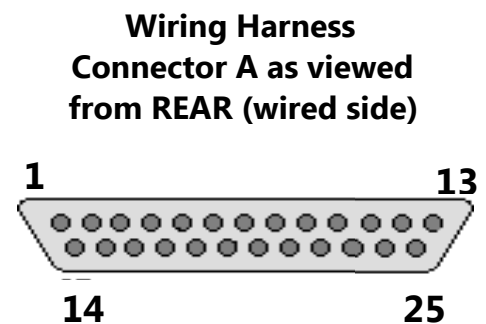
⇒ Connected to wiring harness

▽ Supplied as loose pinned wires

Note 1: See Section 3.7 of HXr Installation Manual for important information about aircraft battery depletion.

Note 2: Suggested AHRS connections. Wires provided with each AHRS wiring harness. A24/Serial 6 IN Redundant AHRS connection does not apply in Single AHRS/Single Display systems. See AHRS Interconnect Diagram for details.

Note 3: Connector A harness is 4 feet long with the exception of the EIS wire, which is 2 feet. Longer harnesses are available by special order.



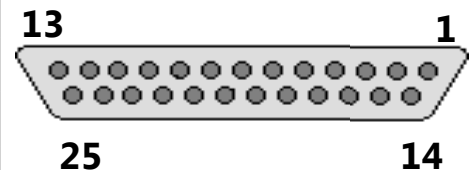
## Connector B Pinout Diagram

Connector B is a 25-Pin D-Sub male connector that attaches to the female EFIS 25-pin D-sub. Pins that are most likely to be used are pre-installed at GRT. Commonly used optional wires are supplied as loose wires. Wire colors assigned to serial ports are suggestions only. Pins labeled NC have no internal connection. Connector B wires are 4 feet long. Longer wires are available by special order.

Pin		Function	Wire Color
B25		NC	
B24		Reserved for Audio output (future use)	
B23	▽	Serial 7 IN	ORG/BLK
B22	▽	Serial 7 OUT	ORG
B21		Analog 1 IN	
B20		Analog 2 IN	
B19		Analog 3 IN	
B18		Analog 4 IN	
B17		Analog 5 IN	
B16		Analog 6 IN	
B15		Analog 7 IN	
B14		Analog 8 IN	
B13		NC	
B12		NC	
B11		NC	
B10		NC	
B9		NC	
B8		NC	
B7	▽	Serial 8 IN	WHT/GRN
B6	▽	Serial 8 OUT	GRN
B5		RS422 Serial 1 OUT B	
B4		RS422 Serial 1 OUT A	
B3		RS422 Serial 1 IN B	
B2		RS422 Serial 1 IN A	
B1		NC	

- ⇒ Connected to wiring harness
- ▽ Supplied as loose pinned wires

**Wiring Harness  
Connector B as viewed  
from REAR (wired side)**

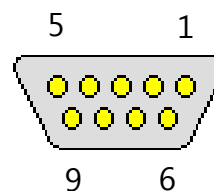


## Connector C: ARINC 429 Pinout Diagram

The ARINC 429 connector, or Connector C, plugs into a 9-pin female D-sub receptacle located on the back of the HXR display unit underneath Connector A and Connector B.

A male 9-pin D-sub connector, along with eight male pins and a backshell, are included with the display unit. No wires are included because most devices that use ARINC 429 already have a wiring harness.

Pin	Function
C1	ARINC 429 IN 1- A
C2	ARINC 429 IN 1- B
C3	ARINC 429 IN 2- A
C4	ARINC 429 IN 2- B
C5	ARINC 429 OUT- A
C6	Spare Ground*
C7	Spare Ground*
C8	Spare Ground*
C9	ARINC 429 OUT- B
* May be used for shield ground	

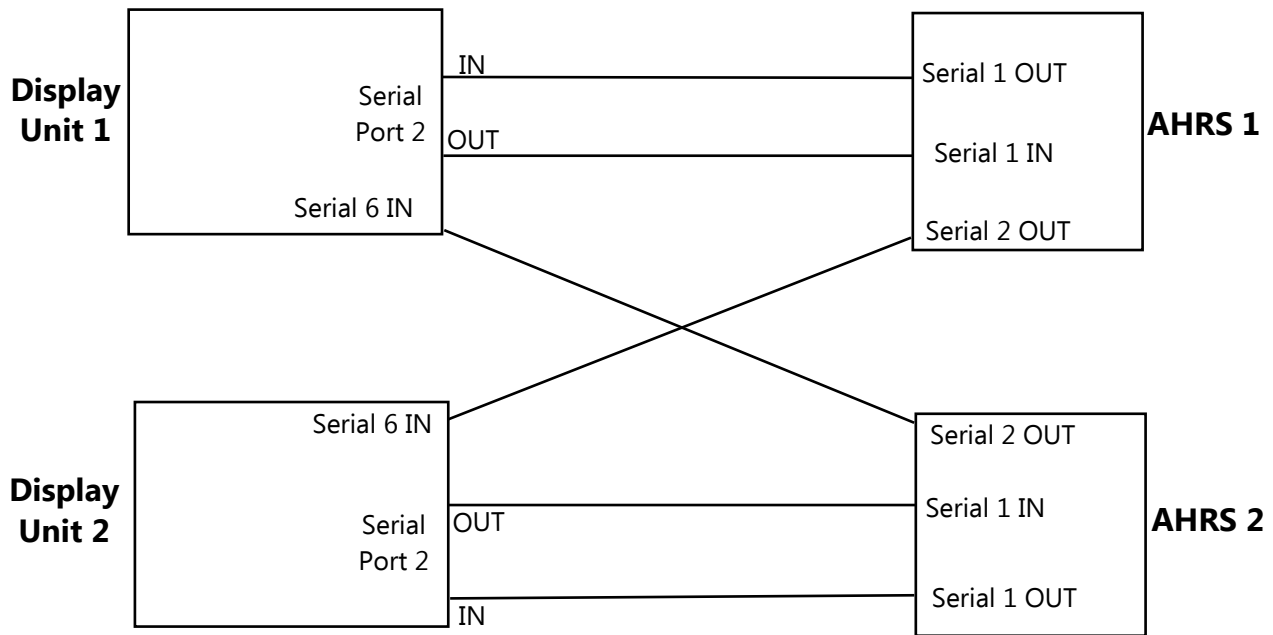


**ARINC 429 Wiring Harness  
Connector as viewed from REAR  
(wired side)**

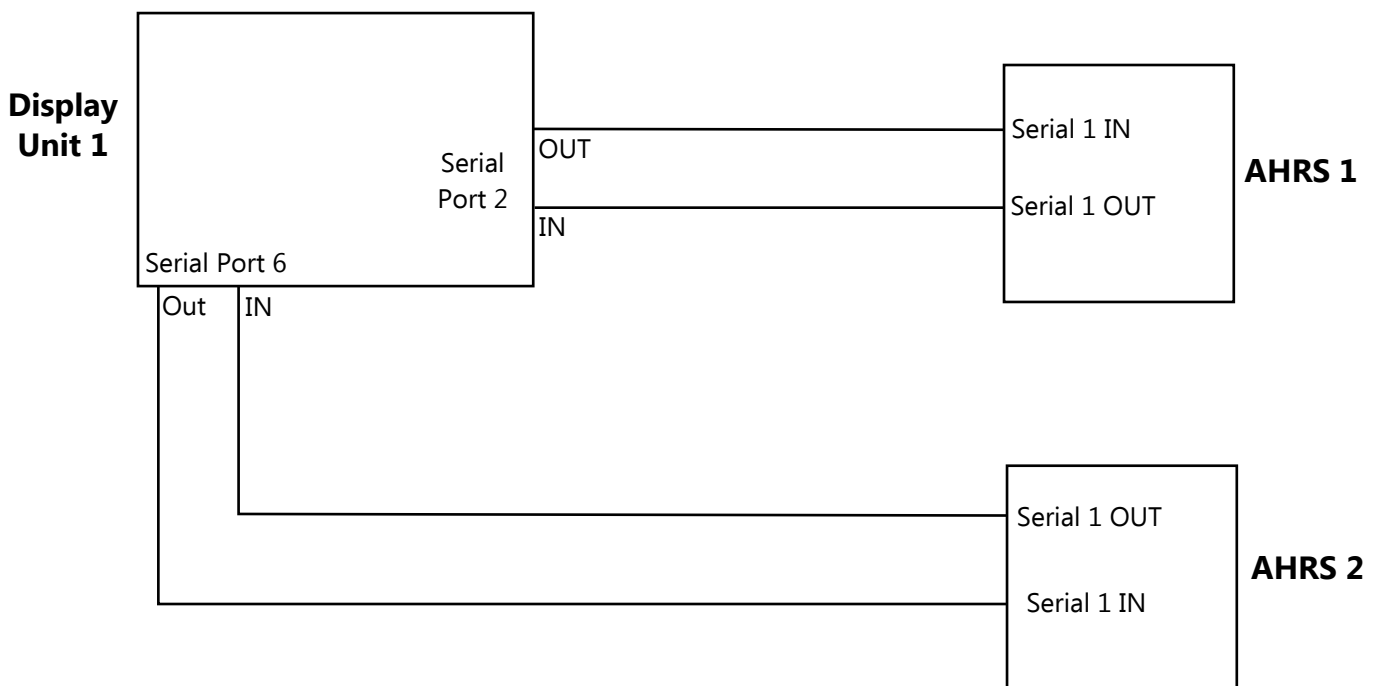
## AHRS Interconnect Diagram

Each AHRS unit can be controlled only by one Display Unit. However, each AHRS can feed information to multiple display units.

### Dual Display Units - Dual AHRS



### Single Display Unit - Dual AHRS



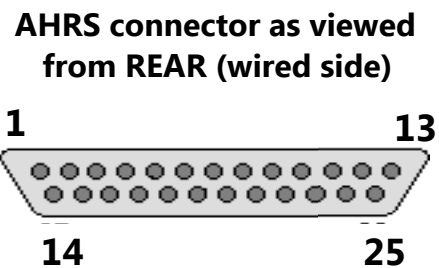
## AHRS Connector Pinout Diagram

The AHRS can only receive input from one Display Unit, however, it can send information to multiple display units for redundancy. Most dual display unit systems have a dual AHRS (one box containing two AHRS units). In dual display/dual AHRS systems, each AHRS uses two serial outputs and one input from its controlling Display Unit. AHRS 1 is controlled by Display Unit 1 and AHRS 2 is controlled by Display Unit 2. See AHRS Interconnect Diagram on page A10 for more information. The AHRS harness is 4 feet long except for the magnetometer wires, which are 20 feet long.

Pin		Function	Wire Color
1	⇒	Serial Out 1	YEL
2		Serial Out 1 (Note 1)	
3	⇒	Serial Out 2 (dual display only)	YEL/GRY
4		Serial Out 2 (Note 1)	
5	⇒	Serial In 1	BRN
6		Serial In 2 (do not use)	
7	⇒	Magnetometer Z IN	WHT
8	⇒	Magnetometer Y IN	WHT/BRN
9	⇒	Magnetometer X IN	WHT/GRN
10	⇒	Outside Air Temperature IN	Gray
11		NC	
12		NC	
13	⇒	Ground	BLK
14	⇒	Magnetometer Ground	BLK
15		NC	
16		NC	
17		NC	
18	⇒	Magnetometer Control OUT	WHT/BLU
19		NC	
20		NC	
21		NC	
22	⇒	Magnetometer Power OUT	WHT/RED
23	⇒	Aircraft Power Input A	RED
24	⇒	Aircraft Power Input B	RED/BLU
25	⇒	Aircraft Power Input C	RED/GRN

⇒ Connected to wiring harness

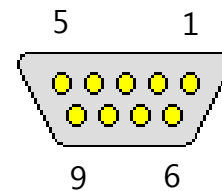
Note 1: Extra serial port; use only in systems with more than two display units.



## Magnetometer Connector Pinout Diagram

All electrical connections for the magnetometer are made to the AHRS/Air Data Computer via 9-pin D-sub connectors. The AHRS connector has these wires pre-installed, but the magnetometer cable is provided without the connector attached for easier routing through the airframe. Use the following diagram to attach the connector to the cable after running the wires. Be sure to inspect the pins before inserting them into the D-sub, as damage can occur from pulling them through holes in the airframe.

Pin	Function	Wire Color
1	MAG Y	WHT/BRN
2	MAG Z	WHT
3	MAG X	WHT/GRN
4	MAG PWR	WHT/RED
5	MAG GND	BLK
6	MAG CNTRL	WHT/BLU
7	NC	
8	NC	
9	NC	



**Wiring Harness Connector as viewed from REAR (wired side)**