VANTAGE12

FLIGHT DISPLAY SYSTEM

Vantage12 Primary Flight Display
Vantage12 Multifunction Display
ADC900 Air Data Computer
MAG300 Magnetometer

Installation Manual

For Cirrus SR20 and SR22

600-00744-000 Revision 03

Revision Table

Date	Revision No.	Description
1/16/2025	00	Company Conformity Release
3/5/2025	01	Initial public release
3/28/2025	02	Panel Modification section added Editorial updates
07/08/2025	03	Compass Check section added

The latest installation manuals are available to authorized dealers on the web at https://www.dealers.avidyne.com

Document Number	600-00744-000	***Control Category***	CC2

Revision	***Description***	***ECO***	***Date***
00	Initial Release for Company Conformity	ECO-25-008	01/16/25
01	Initial Release	ECO-25-024	03/05/25
02	Panel Modification Permission	ECO-25-050	03/28/25
03	Section 5.6 Compass Check	ECO-25-120	07/08/25

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1 General Information

1.1 Introduction

This manual provides the information necessary to install Vantage12 for Cirrus. This document concerns the physical, mechanical, and electrical specifications of the Avidyne Vantage12 PFD, MFD, Cirrus EZ Adapter, along with the associated air data computer(s) and magnetometer(s).

1.2 Scope

The Vantage12 installation manual applies to the Avidyne part numbers shown in Table 1-1 and is for installation in the aircraft models shown in Table 1-2. The Vantage12 Pilot Guide contains all essential operating information and is supplied with the Vantage12 system.

1.3 Product Description

The Vantage12 displays utilize an Ethernet high-speed data bus to communicate with one another, as well as to communicate with the Avidyne IFD navigators installed. Each display has an EZ Adapter which works in place of an adapter harness, routing the existing Cirrus Entegra wiring to the appropriate ports and pins on the Vantage display. Each Vantage display has an internal ARS (Attitude Reference Sensor). The ARS communicates internally on a CAN bus.

Air data computer(s) are mounted and installed on the rear of the PFD, or the PFD and MFD. Air data computers utilize a CAN bus to communicate with the on-side display, and RS232 to communicate with the off-side display (PFD/MFD).

Magnetometer(s) utilize an RS422 data bus. In Single Magnetometer installations, herein referred to as the “Baseline Configuration” Installation, the RS422 data from the existing Magnetometer will be paralleled between both the PFD and the MFD via the EZ adapter harness. In Dual Magnetometer / Dual ADC900 configurations, herein referred to as the “Fully Redundant” Installation, the existing Magnetometer will communicate to the PFD via RS422, and the new (number two) Magnetometer will communicate to the MFD via RS422 via the PFD EZ Adapter, the MFD EZ Adapter, and the EZ Adapter Harness.

The Avidyne DFC90 Autopilot connects to both the PFD and the MFD utilizing RS232 communications via the autopilot fail safe relay located on the PFD EZ Adapter module. Peripheral and 3rd party devices can connect to the Vantage PFD and MFD via RS232, RS422, and ARINC429.

1.4 Applicability

This manual applies to the following part numbers:

Table 1-1: Vantage12 Part Numbers

Component	Part Number	Model	Software Version
Primary Flight Display	700-00212-010	Vantage12 PFD	12.0.0.2 or later
EZ Adapter Module (PFD)	320-00401-001		N/A
Multi-Function Display	700-00212-110	Vantage12 MFD	12.0.0.2 or later
EZ Adapter Module (MFD)	320-00401-101		N/A
Air Data Computer	700-00236-000	ADC900	510-00353-000
Magnetometer	700-00011-000	MAG300 Magnetometer	510-00064-000
GPS / Com/ Nav (x2)	700-00182-XXX 700-00179-XXX	IFD5XX / IFD4XX	10.3.2.2 or later
Autopilot	700-00170-000	DFC90 Digital AP	510-00874-000 Rev 03 or later

This manual applies to the following aircraft serial numbers:

Table 1-2: Aircraft Effectivity

Manufacturer	Model	Serial Numbers
Cirrus	SR20	1337 through 2015
Cirrus	SR22	0435 through 3026

1.5 Technical Documents

Table 1-3: Technical Documents

Description	Source	Part Number
Aircraft Maintenance Manual	Cirrus	12137-001 (SR20) 13773-001 (SR22/SR22T)
Aircraft Wiring Manual	Cirrus	12129-001 (SR20) 13775-001 (SR22/SR22T)
Vantage Installation Manual (This manual)	Avidyne	600-00744-000
Dual Magnetometer Installation Drawing for Cirrus Aircraft	Avidyne	900-00249-000
IFD Installation Manual	Avidyne	600-00299-000
DFC90 Installation Manual	Avidyne	600-00251-000
Acceptable Methods, Techniques, and Practices - Aircraft Inspection and Repair	FAA	AC43.13-1B/2B
PREPARATION FOR AND INSTALLATION OF BUCK-TYPE RIVETS	AIA	NASM47196

1.6 Technical Specifications

Table 1-4: Vantage Display Technical Specifications

Display Specification	Description/Requirement
Display	High Brightness Sunlight Readable Color Active Matrix LCD Optically bonded Projected Capacitive (PCAP) touch screen
Diagonal size	12 inches
Resolution	XGA 1024 X 768
External I/O (Per Display)	ARINC429 TX (x2), ARINC429 RX (x1), Configurable RS485/RS232/RS422 ports (x8), Discrete Out (x2), Discrete In (x2), Dim Bus In (x1), Ethernet (x2), CAN Bus (x2)
Display Physical Characteristics	
Weight	PFD and MFD: 7.4 ± .25 pounds each
Weight with ADC900	PFD and MFD: 7.8 ± .25 pounds each
Weight with EZ Adapter (No ADC)	MFD: 7.7 ± .25 pounds
Weight with ADC900 and EZ Adapter	PFD: 8.2 ± .3 pounds MFD: 8.2 ± .3 pounds
Height	8.93 inches
Width	11.61 inches
Depth	2.67 inches
Depth with EZ Adapter	2.87 inches
Depth with ADC900	4.67 inches
Display Electrical Requirements	
Voltage	9-33 VDC
Power	72 Watts Max
Current	3.6 Amps Max @ 28 VDC
Dimming Bus	28VDC
Cooling Requirement	No external cooling required.
ARS Performance	
See Table 1-5	

Table 1-5: ARS Performance Specifications

ARS Performance	
Pitch Accuracy	2.5° in dynamic flight, 1.0° in static state (unaccelerated flight)
Roll Accuracy	2.5° in dynamic flight, 1.0° in static state (unaccelerated flight)
Heading Accuracy	6.0° in dynamic flight, 2.0° in static state (unaccelerated flight)
Max Body Rates	110°/second
Max Accelerations	6 Gs

Table 1-6: MAG300 (Magnetometer) Technical Specifications

Magnetometer / OAT Sensor	
Specification	**Description / Requirement**
Interfaces	RS-422 from the PFD and RS-422 paralleled to PFD and MFD in "Single Magnetometer" installations. For "Dual Magnetometer" installations Mag #1 utilizes RS-422 to / from the PFD; Mag #2 utilizes RS-422 to / from the MFD
Magnetometer Physical Characteristics	
Weight	0.52 lbs
Height	2.53 inches
Width	3.75 inches
Depth	3.75 inches
Magnetometer Electrical Requirements	
Voltage	24VDC supplied by the PFD / MFD in "Single Mag" installations. These outputs are tied together and diode OR'd within the displays. For "Dual Magnetometer" installations Mag #1 receives 24VDC from the PFD; Mag #2 receives 24VDC from the MFD
Current Draw	Included in the Display Current Draw value
Cooling Requirement	None
TSO	TSO-C6d

Table 1-7: Air Data Computer Technical Specifications

Air Data Computer Physical Characteristics	
Weight	0.46 ± .05 pounds
Height	3.0 inches
Width	4.5 inches
Depth	2.0 inches
Air Data Computer Electrical Requirements	
Voltage	9-32 VDC
Power	28 Watts
Current	1 Amp Max @ 28 VDC
Cooling Requirement	None
TSO	TSO-C106a

1.7 Avidyne Supplied Material

For the baseline installation, the Vantage system includes an Air Data Computer and installation kit. For the Fully Redundant Installation, the system includes everything in the Standard Installation plus an additional Air Data Computer and installation kit, a 2nd Magnetometer and installation kit. The system also includes a Pilot's Guide and this Installation Manual.

The following Ship Kits are available to order from Avidyne Corporation.

CAUTION:
Ship Kit content and/or Part numbers may change without notice, verify before ordering.

1.7.1 Product Ship Kit for Vantage12 Instrument Panel and Overlay

Table 1-8: Vantage12 Install Kit Contents

PART NUMBER	DESCRIPTION	QTY
850-00327-000 120-01163-000 820-00134-000 OR **850-00327-001** 120-01164-000 820-00134-000 OR **850-00327-002** 120-01164-001 820-00134-000 OR **850-00327-003** 120-01250-000 820-00134-000	SHIP KIT, VANTAGE12 PANEL, CIRRUS, SIU, SR20 SN 1337-1581, SR22 SN 0435-1662 SHIP KIT, VANTAGE12 PANEL, CIRRUS, DAU, SR20 SN 1639 AND ON, SR22 SN 1863 AND ON SHIP KIT, VANTAGE12 PANEL, DAU, SR20 SN 1582-1638, SR22 SN 1663-1862 SHIP KIT, VANTAGE12 PANEL, CIRRUS, DISPLAY CUTOUT ONLY (Outside STC Scope)	1
820-00134-000 150-00601-000 150-00602-000 150-00260-000 150-00606-000 110-00351-000	CIRRUS VANTAGE PANEL HARDWARE KIT MS21075L06N 6-32 FLOATING NUTPLATE (X5) MS21071L06 6-32 FIXED NUTPLATE (X3) MS20426AD3-4 RIVET, FH (x16) OVERLAY ALIGNMENT PIN (x6) CIRCUIT BREAKER LABELS (GREY)	Included in Panel Ship Kit

110-00351-001	CIRCUIT BREAKER LABELS (BLACK)	
150-00615-000	BLACK OXIDE BUTTON HEAD SCREW #10-32 X 5/8" PER ASME B18.3 OR ASTM F835 (x8)	
150-00616-000	PANEL WASHERS (x8)	
	GRAPHIC OVERLAY, CIRRUS VANTAGE PNL	1
110-00338-000	SIU, SR20, SN 1337-1581	
OR		
110-00338-010	SIU, SR22, SN 0435-1662	
OR		
110-00339-000	DAU, SR20, SN 1639 AND ON	
OR		
110-00339-001	DAU, SR20, SN 1582-1638	
OR		
110-00339-010	DAU, SR22, SN 1863 AND ON	
OR		
110-00339-011	DAU, SR22, SN 1663-1862	

1.7.2 Product Ship Kit for EZ Adapter

Table 1-9: EZ Adapter Ship Kit Contents

850-00325-000 EZ ADAPTERS AND HARNESS SHIP KIT, VANTAGE12, CIRRUS		
PART NUMBER	**DESCRIPTION**	**QTY**
820-00139-000	EZ ADAPTER AND INSTALLATION HARDWARE KIT, VANTAGE12, PFD	1
820-00139-100	EZ ADAPTER AND INSTALLATION HARDWARE KIT, VANTAGE12, MFD	
100-00560-000	EZ ADAPTER HARNESS, VANTAGE12	
820-00139-000	**EZ ADAPTER AND INSTALLATION HARDWARE KIT, VANTAGE12, PFD**	Included in 850-00325-000
320-00401-001	PCA, EZ ADAPTER, VANTAGE12, CIRRUS, PFD (X1)	
150-00171-000	SCREW, #4-40 X 1/2", SEM, PAN, PH, SS (X6)	
150-00077-021	SCREW, #4-40, 1-7/8", SEM, PAN, PH, SS (X2)	
150-00600-000	SPACER, 6MM OD, M3 ID, 40MM L, UNTHREADED (X2)	
820-00139-100	**EZ ADAPTER AND INSTALLATION HARDWARE KIT, VANTAGE12, MFD**	Included in 850-00325-000
320-00401-101	PCA, EZ ADAPTER, VANTAGE12, CIRRUS, MFD (X1)	
150-00171-000	SCREW, 4-40 X 1/2", SEM, PAN, PH, SS (X6)	
150-00077-021	SCREW, #4-40, 1-7/8", SEM, PAN, PH, SS (X2)	
150-00600-000	SPACER, 6MM OD, M3 ID, 40MM L, UNTHREADED (X2)	

1.7.3 Product Ship Kit for Single Mag300 / Single ADC900 (Baseline Configuration)

Table 1-10: Single MAG / Single ADC Ship Kit

850-00212-000 SINGLE MAG / SINGLE ADC SHIP KIT, VANTAGE12, CIRRUS		
PART NUMBER	**DESCRIPTION**	**QTY**
700-00212-010	VANTAGE12 PFD	1
700-00212-110	VANTAGE12 MFD	1
700-00236-000	AIR DATA COMPUTER	1
820-00132-000	AIR DATA COMPUTER INSTALLATION KIT, VANTAGE MOUNT	1
820-00133-000	PILOT DOCUMENTATION KIT, VANTAGE12	1

1.7.4 Product Ship Kit for Redundancy Upgrade

Baseline configuration kit also required for a complete installation. Redundancy kit (below) includes the materials required to add a second air data computer and a second magnetometer.

Table 1-11: Redundancy Upgrade Ship Kit

850-00212-001 REDUNDANCY UPGRADE SHIP KIT, VANTAGE12, CIRRUS		
PART NUMBER	**DESCRIPTION**	**QTY**
700-00011-000	MAGNETOMETER	1
700-00236-000	AIR DATA COMPUTER	1
820-00132-000	AIR DATA COMPUTER INSTALLATION KIT, VANTAGE MOUNT	1
820-00140-000	MAGNETOMETER INSTALLATION KIT, CIRRUS DUAL INSTALL	1
820-00142-000	NYLON TUBE FITTINGS KIT, DUAL AIR DATA	1
100-00560-100	DUAL MAGNETOMETER HARNESS ADD-ON	

1.7.5 Materials Required but Not Supplied

The Avidyne Vantage12 may require the following installation supplies that are not included in the ship kits.

- Tie Wrap or Lacing Cord
- Pitot Static Tubing

1.7.6 Special Tooling Required

The following lists the required toolsets:
ADC Installation:

- AF8 (M22520/1-01) crimper
- TH4 (M22520/1-03) positioner

Avidyne Magnetometer Harness Termination:

- AF8 (M22520/1-01) crimper
- TH1A (M22520/1-02) positioner

IFD Ethernet Termination (Reference IFD Installation Manual, 600-00299-000 Latest Rev):

- AFM8 (M22520/02-01) crimper
- K13-1 (M22520/2-08) positioner

Avidyne Magnetometer Mounting Guide (Fully Redundant Installation):

- Avidyne P/N: 130-00307-000 for use in Pre-G3 Cirrus aircraft*
- Avidyne P/N: 130-00307-001 for use in G3 Cirrus aircraft*

IRU Calibration:

- Standard Aircraft Grade Inclinometer
  - Baseline 12-1057 Digital Inclinometer or equivalent
- Digital Goniometer*
  - Baseline 12-1027 Absolute Axis 360 Degree Digital Goniometer or equivalent

*Available in Dealer Installation Kit, 850-00326-000.

1.8 Baseline Configuration

The baseline minimum configuration installation of the Vantage System in Cirrus aircraft requires the following equipment to be installed in the aircraft:

1. Dual Avidyne IFDs with COM/NAV capability (any combination of 550, 540 or 440)
2. Avidyne DFC-90 Autopilot with Release 3 software or newer.
3. Existing MAG300 Magnetometer / OAT from Entegra EXP5000
4. Existing SIU or DAU from Entegra EXP5000
5. (New) Vantage12 PFD
6. (New) Vantage12 MFD
7. (New) Air Data Computer (ADC900)

Note:
Installation of Avidyne IFDs is beyond the scope of this manual. Please see STC SA00343BO and associated manuals

Note:
Installation of the Avidyne DFC90 is beyond the scope of this manual. Please see STC SA00296BO and associated manuals

1.9 Fully Redundant Configuration

A Fully Redundant Installation of the Vantage System in the Cirrus aircraft requires the following equipment to be installed in the aircraft:

1. A second (New) Air Data Computer (ADC900)
2. A second (New) Magnetometer

1.10 Recommended Configuration

Avidyne recommends the following aircraft configuration, based on a typical factory configuration of the aircraft which includes Skywatch and XM weather.

1. Vantage12 PFD and MFD
2. Second air data computer and magnetometer
3. AMX240 Audio panel

4. IFD 540 #1 GPS Nav/Com (with WAAS antenna upgrade if not already equipped, TSO-C190 recommended)
5. IFD 440 #2 GPS Nav/Com (with top mounted WAAS antenna if not already equipped, TSO-C190 recommended)
6. DFC90 Autopilot with flap position sensing
7. AXP322 transponder
8. Skytrax 200 ADS-B In and antenna

Where diversity is required, or removal of Skywatch and retention of TAS function is desired, use NGT9000R transponder with TAS and/or diversity enablements in place of AXP322 and Skytrax 200 and reuse existing transponder and TAS antennas.

1.11 Documentation

All Vantage12 documentation is provided via the Avidyne Dealer Website. See section 10.1 for Avidyne technical support contact information.

1.12 Databases

The Vantage System utilizes several databases. All databases can be loaded on the Vantage Display by using the USB-C port on the upper left hand side of the bezel. Reference the Vantage12 for Cirrus Pilot's Guide 600-00745-000 or section 8 of this manual for updating the applicable PFD / MFD databases. All Vantage12 displays are supplied by the factory with Forward Looking Terrain Alerting (FLTA) enabled.

Avidyne provided databases have FAA DO-200A or DO-200B Type 2 Letter of Acceptance (LOA) for Obstacles, Nav Data, Terrain Data, and Airport diagrams, in accordance with AC 20-153 for database integrity, quality, and database management practices for the navigation database. The chart database is vendor (Jeppesen) approved. Flight crew and operators can view the approval information at www.avidyne.com.

1.13 Part 23 STC Approved Model List

The aircraft listed on the STC ST02462BO Approved Model List are eligible to install the Vantage12 system. However, the installer must determine whether the installation is compliant with the limitations stated in the STC and this manual. Any deviations from the STC and/or this manual require separate installation approval.

2 Installation Overview

The installer must use the instructions in this section to verify that the Vantage12 System can be installed in the subject aircraft. Vantage12 should be installed using information contained in this manual, other approved installation data such as TC or STC data, and standard industry practice while following guidance in FAA AC 43.13-1B / AC 43.13-2B.

2.1 Intake Inspection

Verify that all existing avionics systems on the aircraft are operating properly. If the Entegra EXP5000 PFD or EX5000 MFD are exhibiting any issues, thoroughly document the issues and provide a report with the returned units to ensure full core credit is issued.

2.2 Pre-Installation Configuration Identification Checklist

Before installing the Vantage12 system, it is important to identify the current configuration and to ensure the aircraft meets the prerequisites for the installation. Using the form below, document all the existing PFD, MFD, IFD 1 and 2 configuration settings. This information is useful to ensure the Vantage displays are properly interfaced with the existing equipment in the aircraft.

Table 2-1: Vantage12 Pre-Installation Configuration

Unit	Mx Mode Page	Selection	Current Setting		Current Port
EXP5000 Entegra PFD	**System Page**	Aircraft Model			
	Avionics Page	Engine DAU		Moritz DAU	
				Not Installed	
EX5000 Entegra MFD	**Traffic Setup**	Sensor			
		TAS Type			
	Lightning Setup	Sensor			
	Engine Setup	Sensor Type			
	Aircraft Setup	Checklist			
		Broadcast			

Using the table below, complete the checklist to assist in determining if all the requirements for installation are met. Ensure each item included in the checklist is completed prior to starting the installation.

Table 2-2: Vantage Pre-Installation Checklist

Item	Reference	Completed
Aircraft is equipped with an Avidyne Entegra Primary Flight Display	Factory Cirrus Manuals	
Aircraft is equipped with an Avidyne Multi-Function Display	Factory Cirrus Manuals	
Aircraft is equipped with an Avidyne DFC90 Autopilot installed under STC SA00296BO and DFC software version is 510-00874-000 Rev03 or later	See Section 2.3 of this manual	
Aircraft is equipped with 2 Avidyne IFD 4xx/5xx series Com/NAV/GPS units installed under STC SA00343BO and IFDs have been updated to software version 10.3.2.2 or later	IFD Part 23 Installation Manual 600-00299-000 (Latest Rev)	
The information applicable to section 2.5 of this manual has been appropriately recorded, and that equipment / configuration does NOT conflict with any of the approved data in this manual	See Section 2.5 of this manual	
Aircraft does NOT have a Certified TAWS requirement under Part 91 or Part 135	Aircraft Records	

Note:
Refer to Section 1.3 of this manual to confirm the compatibility of the aircraft with the Avidyne parts.

2.3 DFC90 Software Version

For compatibility with the Vantage12 installation, the DFC90 requires Software version 510-00874-000 Rev 03 or later. The installed software version must be verified prior to removal of the Entegra PFD by following the instructions below:

Put the Entegra PFD into Maintenance Mode by:

1. Powering the unit on
2. Hold the #1 and #3 Line Select Keys on the left-hand side of the display.

You will see a countdown in the lower LH corner.

3. Keep the Line Select Keys #1 and #3 depressed while the countdown continues.
4. Once it reaches zero, the PFD will reboot into Mx Mode.
5. Using the knobs on the bottom of the display, scroll to the “System Info” Tab.
6. Verify the DFC90 Software version shown is 510-00874-000 Rev 03 or later.
7. If DFC90 software version is 510-00874-000 Rev 02 or earlier, contact Avidyne Technical Support to arrange for RMA for DFC90 Software updates (See section 10.1 Technical Support). Note that particularly early software versions on the DFC90 will display a part number beginning with 530- instead of 510-. These units will need to be RMA’d as well.

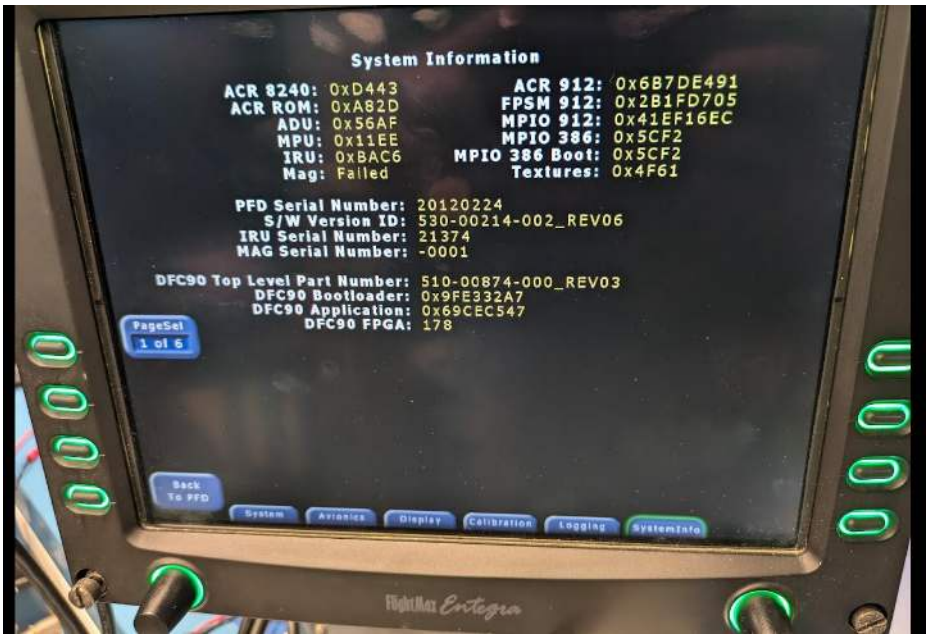


Figure 2-1: DFC90 Software Verification on Entegra PFD

2.4 EXP5000 PFD Interfaces Approved for Vantage12

The Vantage12 PFD will interface with all previously approved Avidyne Entegra PFD Cirrus installations. Details regarding these interfaces are provided in the sections below.

2.4.1 PFD Engine Data Interface

2.4.1.1 DAU Equipped

Cirrus Aircraft previously equipped with a Moritz DAU will utilize an RS232 input on the Vantage12 PFD and an RS232 input on the Vantage12 MFD. See Figure D-8 in Appendix D for details.

2.4.1.2 SIU Equipped

For Moritz SIU equipped aircraft there is no existing connection between the SIU and the Vantage12 PFD. In these installations, the Vantage12 PFD will receive engine data from the MFD via Ethernet. See Figure D-9 in Appendix D for details.

2.4.2 PFD Autopilot Interface

The Vantage12 PFD outputs for ADAHRS (TX5), and Control (TX6) are sent to the DFC90 via the energized contacts of the K1 fail-safe relay. The Fail-Safe Relay is held energized by discrete out #1 of the Vantage12 PFD to the K1 Fail Safe Relay. In the event of a PFD failure, the discrete at the PFD is removed, which de-energizes the Fail-Safe Relay. In this instance, the DFC90 ADAHRS (TX5) and Control (TX6) RS232 transmit from the MFD to the DFC90 via the de-energized contacts of the K1 Fail Safe Relay.

The Vantage12 PFD and MFD receive mode selection and bug select data from the DFC90 via RS232. This input is carried into the Vantage12 PFD EZ Adapter, where it is paralleled to both the PFD and the MFD (RX6) and constantly monitored by both displays. See Figure D-24 in Appendix D for details.

2.4.3 PFD Air Data / Heading Output

The PFD provides Air Data ARINC 429 Output on A429 TX-1 when configured for “PFD 429”. This output is fed through the PFD EZ Adapter and to the existing aircraft wiring originally connected to the Entegra PFD. This provides previously available air data information to the connected IFD’s ARINC429 channel 1 inputs, as well as anything else that may be connected on these 429 pins (Aircraft Data Logger, Traffic System, Transponder, etc). See Figure D-3 in Appendix D for details.

2.5 EX5000 MFD Interfaces Approved for Interface with Vantage12

The Vantage12 MFD will interface with all previously approved Avidyne Entegra MFD interfaces for Cirrus except external TAWS. Details regarding these interfaces are provided in the sections below.

2.5.1 MFD Engine Data

The Vantage12 MFD is compatible with existing Moritz DAU or Moritz SIU engine data concentrators using existing RS232 connections and existing engine and systems sensors.

2.5.2 Compatible Peripheral Equipment (All Configurations)

The Vantage12 is designed to be compatible with the following equipment that was previously approved with existing Entegra MFD installations:

Table 2-3: Vantage12 for Cirrus Compatible Equipment Interfaces

Category	Vendor	Model	Connection Options
Traffic	Avidyne	9900BX	RS232 or ARINC 429
	Avidyne	TAS6xx	RS232 or ARINC 429
	Avidyne	TAS-A	RS232 or ARINC 429
	L3	Skywatch	ARINC 429
ADS-B Traffic	Avidyne	Skytrax 200	RS232 or ARINC 429*
	Garmin	GTX345	ARINC 429
	L3	NGT9000 / NGT9000R	RS232 or ARINC 429*
ADS-B Weather	Avidyne	Skytrax 200	RS232
	Garmin	GTX345	RS232
	L3	NGT9000 / NGT9000R	RS232
Lightning	Avidyne	TWX-670	RS232
	L3	WX-500	RS232
Datalink	Heads Up Technologies	XMD-076	RS232

NOTE: *Entegra 1 required ARINC 429 Traffic and RS232 WX from these devices. Vantage12 does not have this limitation and can accept ADS-B Traffic and WX from single RS232 data-stream. **See Appendix D for details**

The following matrix shows combinations of traffic and weather devices, as well as provides guidance to wiring diagrams for the particular configuration. Other configurations, while potentially viable, are outside the scope of this STC.

Traffic System	Weather Sensor							
	XMD076	Skytrax 200	NGT9000	GTX345	XM + ST200	XM + NGT9000	XM + GTX345	WiFi Capstone
Skywatch	Factory Figure D-10 Figure D-13	Note 4	Note 1	Note 4	Note 4	Notes 1, 3	Note 4	Note 6 Figure D-13
TAS6XX	Figure D-10 Figure D-17	Note 4	-	Note 4	Note 4	-	Note 4	Note 6 Figure D-17
Skytrax 200	Note 2 Figure D-10 Figure D-14	Figure D-14	-	-	Notes 3, 7 Figure D-10	-	-	-
NGT9000	Note 2 Figure D-10 Figure D-15	-	Note 1 Figure D-15	-	-	Notes 1, 3, 7 Figure D-10	-	-
GTX345	Note 2 Figure D-10 Figure D-16	-	-	Figure D-16	-	-	Notes 3, 7 Figure D-10	-
Skywatch + Skytrax200	Note 2 Figure D-10 Figure D-18	Figure D-20	-	-	Note 3 Figure D-22	-	-	-
TAS6XX + Skytrax 200	Note 2 Figure D-10 Figure D-19	Figure D-21	-	-	Note 3 Figure D-23	-	-	-
WiFi Capstone	-	-	-	-	-	-	-	Note 5

Notes:

1. If diversity is required, or NGT9000r installed for any other reason, remove Skywatch unit and repurpose antennas for NGT9000r with active traffic unlock. Wire NGT9000r to IFD RS232, leave MFD429 port 1 unused.
2. Consider XM+FIS-B for Wx. See applicable column for XM+ADS-B receiver.
3. XM Wx on MFD, FIS-B Wx on IFDs
4. If ADS-B and active traffic systems are on board, traffic must be hybridized.
5. Via IFD WiFi
6. Weather+Traffic on IFD, weather on Vantage via IFD Wifi
7. Reference IFD installation manual (600-00299-000 Latest Revision). MFD will have no traffic device configured.

2.6 Circuit Breakers

The Vantage PFD will utilize the existing PFD and MFD Circuit Breaker (CB) and wiring at the existing Entegra PFD and MFD connector P730 and P528 respectively.

The Vantage ADC900s will be powered by the existing Turn Coordinator (TC) Circuit Breakers. In standard installations, TC number 1 power CB will power the ADC900. In Fully Redundant installations comprising Dual ADC900, TC number 1 CB will power ADC900 number 1, and TC number 2 CB will power ADC900 number 2.

Magnetometer(s) are powered directly from the PFD/MFD. See section 3.5.3 for details.

2.7 Terrain Awareness Considerations

2.7.1 FLTA

Vantage systems come standard with visual Forward-Looking Terrain Alerting (FLTA) capabilities.

2.7.2 Alert Audio

Vantage systems do not provide aural alert output associated with FLTA. This aural alerting capability is available from the installed IFD. See IFD Series Installation Manual 600-00299-000 (latest revision) for details.

2.8 Magnetometer / OAT Probe

2.8.1 Single Magnetometer

The Vantage12 PFD communicates with the existing magnetometer via the Entegra connectors and the Vantage12 PFD EZ Adapter. The data from the magnetometer gets connected to the MFD in parallel with the PFD via the Vantage12 PFD EZ Adapter and the P5 connector to the MFD.

2.8.2 Dual Magnetometer

The second magnetometer will communicate with the MFD via the additional second magnetometer harness. The second magnetometer must be installed following the installation data in section 4.2.5 of this manual. In all instances, the magnetometer(s) communicate with the Vantage12 Displays utilizing an RS-422 data bus.

NOTE:
In either configuration, the original magnetometer and its wiring will remain per the factory installation. **See Appendix D for details**

3 Electrical Installation

3.1 Wire Type

The following lists the wiring type recommendations for this installation:

- Shielded Wire should be MIL-C-27500 or equivalent.
- Non-Shielded Wire should be MIL-W-22759 or equivalent.
- Ethernet wire must be aircraft grade Cat 5e Ethernet Cable
    - PIC Wire E10424 or equivalent is recommended.
- CAN Bus Wire: GigaFlight GF120T-24CANB or equivalent is recommended.

3.2 Wire and Connector Identification

Wires should be marked in accordance with AC43.13-1B Chapter 11, section 16.
Wiring should be installed in accordance with AC43.13-1B Chapter 11, section 8-13.

3.3 Wire Routing

Route wire harnessing with existing aircraft wiring wherever possible, ensuring the harness does not come into contact with high heat sources, sources of EMI or RF interference. All wiring must be routed and secured in such a way as to eliminate risk of mechanical damage and minimize exposure to heat and fluids.
100-00560-100 cable (when required in a dual magnetometer installation) shall be terminated per Figure D-7 after routing through conduit.

CAUTION:
Do not route Vantage12 wire harnesses near flight controls, flight control cables, high current capacity lines, fuel lines, or any high energy sources.

3.4 Shield Grounds

All shield grounds should be grounded utilizing shield ground pins at the connector, or the ground lug on the chassis. All shield grounds should be as short as possible. Shield grounds on non-Avidyne equipment should be grounded per the manufacturer's installation instructions. In the absence of any installation data, the shield wires can be connected to the connector back-shell (metal back-shells only), or aircraft ground.

3.5 Circuit Protection

The Vantage12 for Cirrus installation is designed to use the existing PFD and the existing MFD circuit breakers. Circuit breakers for the newly installed ADC900 will re-purpose the existing circuit breakers for the factory installed blind turn coordinator.

3.5.1 PFD Circuit Breakers

The Vantage PFD has dual power inputs that receive 28VDC power from two separate buses. The CB configuration for the PFD installation is as per the following:

1. The PFD/HSI #1 10A circuit breaker (CB639) is retained from the original factory installation and provides 28VDC from the aircraft Essential Bus.

2. The PFD/HSI #2 – 10A circuit breaker (CB613) is retained from the original factory installation and provides 28VDC from the aircraft Main Bus #2.

3. The PFD/HSI #2 circuit breaker also supplies 28VDC to the coil of the Fail-Safe Relay K1 on the PFD EZ Adapter.

Refer to electrical drawings in Appendix D for more detail.

3.5.2 MFD Circuit Breaker

The MFD 5A circuit breaker (CB633) is retained from the original factory installation and provides the MFD 28VDC from the Avionics Non-Essential Bus. Refer to electrical drawings in Appendix D for more detail.

3.5.3 Air Data Computer Circuit Breaker

As part of the Vantage12 Installation, the factory installed blind turn coordinator should be removed and the connector at the turn coordinator should be bagged and stowed. The 100-00560-000 Vantage12 Adapter Harness will come complete with power wires and loose pins (MC120N) for both ADC900 #1 and ADC900 #2.

NOTE:
ADC900 power wiring should be routed along with the harness.

Keep track of “loose” power wires for ADC#1 and ADC#2 while routing the harness to ensure the proper pinning of the P685 connector. This will ensure the correct circuit breaker is powering its assigned ADC900.

To install the ADC900 CB connections following the steps below:

1. Locate aircraft connector P685.
    a. This blue connector should be located near the firewall, forward of the PFD (see image below - Figure 3-1: P685 Connector Location)

Figure 3-1: P685 Connector Location

2. Once located, remove, cap and stow the existing wires / pins on the J685 side of the connector, Pin 11 and Pin 1.

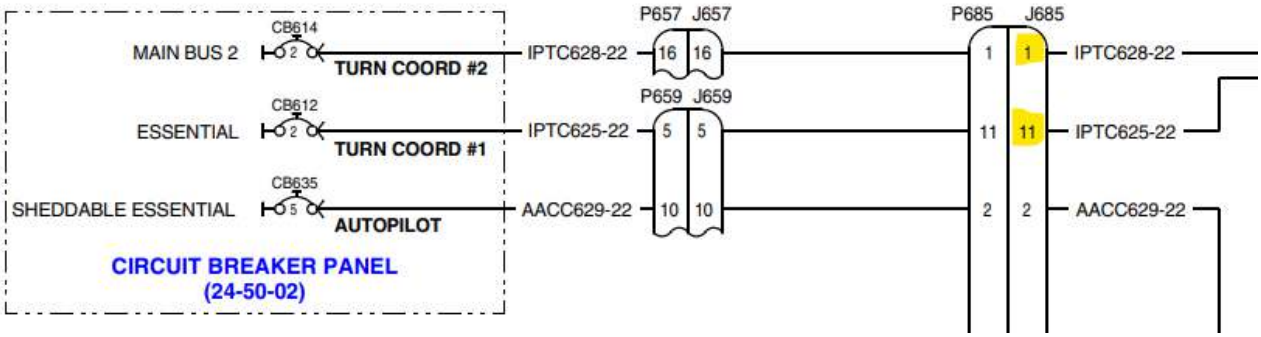


Figure 3-2: J685 Pins 11 and 1 to remove, cap and stow

3. Route the harness as required.

4. Crimp pins on wires using appropriate crimp tool. Suggested: DMC AF8 (M22520/1-01) with TH4 positioner (M22520/1-03).

5. Insert the #1 ADC900 power wire pin into J685 Pin 11.

   This will provide 28VDC to the #1 ADC900 from the Turn Coordinator #1 2A circuit breaker (CB612) on the Aircraft Essential Bus. See Appendix D Figures D-4 and D-5 for electrical interface.

6. Insert the #2 ADC900 power wire pin into J685 Pin 1.

   This will provide 28VDC power to the #2 ADC900 (if installed) from the Turn Coordinator #2 2A circuit breaker (CB614) on the aircraft Main Bus #2. See Appendix D Figures D-4 and D-5 for electrical interface.

7. Affix the new label(s) over the existing TC circuit breaker labels.

   The new ADC900 #1 and ADC900 #2 circuit breaker labels are included in the 820-00134-000 component kit. For dual ADC installs, affix both labels. For single ADC installs, affix the #1 label over the Turn Coordinator 1 label and a blank label over the Turn Coordinator 2 label.

3.5.4 SKYWATCH/TAWS Circuit Breaker

As part of the Vantage12 STC, the factory-installed TAWS device (KGP560) is removed. A new circuit breaker label to reflect this change is included in the installation kit.

3.6 Electrical Bonding

The Vantage12 displays and ADCs shall be bonded to aircraft ground with a maximum resistance of 10mΩ. ADCs achieve bonding through their connection to the back of the Vantage12 display.

4 Mechanical Installation

This section describes the removal of equipment and physical mounting of Vantage12 systems in a Cirrus Aircraft.

4.1 Equipment Removal

CAUTION:
Before removing any equipment from the factory Entegra installation, double check to ensure you have saved all the configuration settings along with verifying the necessary software versions as they cannot be easily recovered once the equipment is removed

Carry out the following equipment removal instructions:

1. Remove the aircraft glareshield in accordance with Cirrus Aircraft Maintenance Manual chapter 25-10.

2. Retain all hardware and store glareshield in a safe location.
    a. See section 1.5 for a list of applicable reference documents.

3. Remove the Entegra PFD and MFD in accordance with the Cirrus Aircraft Maintenance Manual Chapter 31-60.
    a. See Section 1.5 for a list of applicable reference documents.

4. Remove the existing instrument panel per Cirrus AMM, Chapter 31, Section 10 and retain hardware.

5. Remove and retain interfacing components from instrument panel such as the annunciator panel, ignition switch, HVAC controls, and engine instruments or glove box (if equipped) to be re-installed on the new instrument panel.

6. If installed, remove TAWS annunciators and KGP560 TAWS processor and bag and stow connectors.

7. Remove the Blind Turn Coordinator IAW Cirrus Manual Section 34-20, bag and stow connector P693.

4.2 Vantage12 System Installation

4.2.1 Vantage12 EZ Adapter Harness Installation

The following subsections should be followed in sequence for complete installation of the Vantage12 EZ Adapter Harness.

4.2.1.1 Install EZ Adapter Harness P/N: 100-00560-000 (All Installations)

The 100-00560-000 EZ Adapter Harness is included in the 850-00325-000 ship kit. Figure 4-1 below illustrates the EZ Adapter Harness routing in a finished installation for reference. The EZ Adapter boards will be installed and connected in a later section.

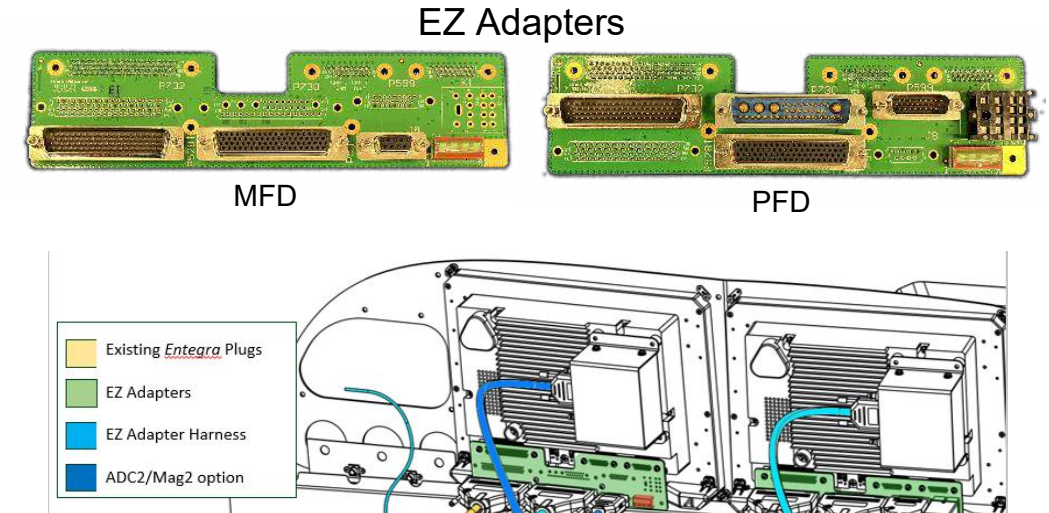


Figure 4-1: EZ Adapter Mounting Location

Install main EZ Adapter harness following the steps below:

1. Route the harness as close as possible to the existing factory installed harness.

   Keep in mind that the existing connectors will also be used.

2. Closely align the harness end points to prevent having one part of the harness pulled more tightly than the other when installed.

3. Ensuring the PFD/ADC #1 connectors are on the left side of the cockpit and the MFD/ADC#2 connectors are on the right side of the cockpit, install the main EZ adapter harness.

4.2.1.2 Ethernet Wiring Installation (All Installations)

The figure below, Figure 4-2: Ethernet Routing, illustrates the routing of the Ethernet interface between the PFD/MFD and IFD# (1)(2).

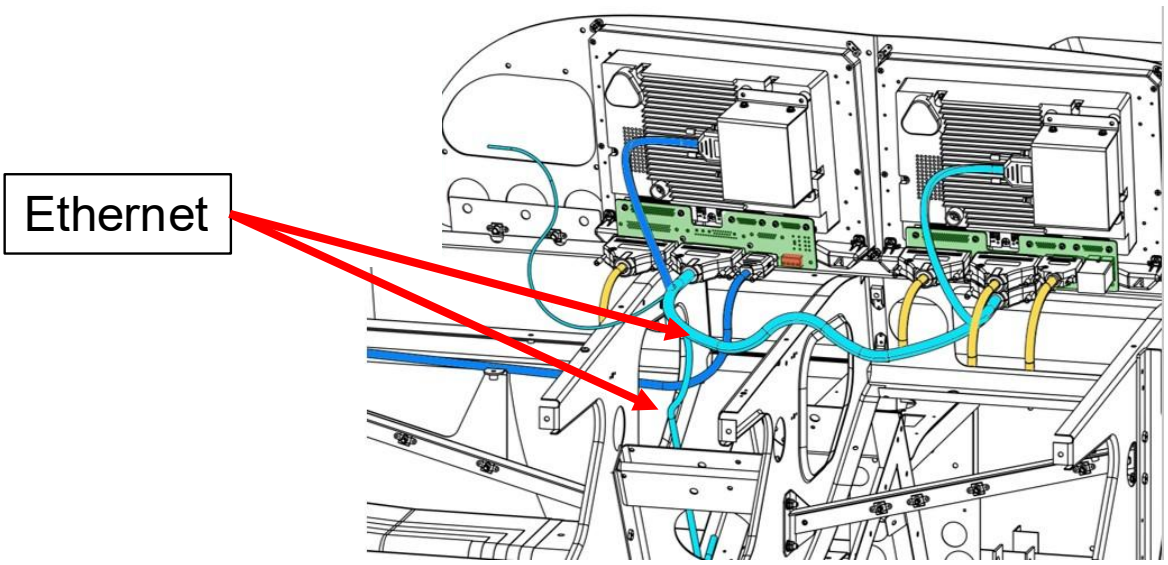


Figure 4-2: Ethernet Routing

Install Ethernet connecting the PFD to IFD#1 and the MFD to IFD#2 following the steps below:

1. Route the Ethernet wiring from the PFD along with the EZ Adapter harness

2. Break out the Ethernet from the main harness at the mid-section and route it down the center stack to the #1 IFD. Ethernet wiring will be labeled “PFD-…/IFD1-…”.

3. Terminate the sockets (M39029/63-368) provided with the 100-00560-000 harness per Figure D-3 and the latest revision of the IFD Part 23 Installation Manual, 600-00299-000.

4. Repeat steps 1 through 3 for the MFD to IFD #2 Ethernet installation.

4.2.2 Instrument Panel Preparation

Installing the Vantage system requires a new instrument panel to mount the displays as well as other panel-mounted equipment. Avidyne offers various instrument panel and overlay options to simplify the installation. For available options reference section 1.7. The nut-plates, rivets, and graphic overlay are provided separately from the panel to allow for easy customization of the panel aesthetics, if desired. The hardware used in this section is provided in the 820-00134-000 component kit.

NOTE:
Whether using the Avidyne provided graphic overlay or applying a custom overlay or decal(s), Avidyne recommends using the provided sheet metal panel to ensure the Attitude Reference Systems integrated within the Vantage displays can be properly calibrated.

4.2.2.1 Modification

Consider whether the panel needs to be modified to accept any optional equipment. List of currently approved panel modifications and their associated drawings:

Purpose	Drawing Number	Applicable Serial Number Range
Add factory A/C LED indicator hole	900-00252-000	SR22 1863 and on

Any modification must be completed in accordance with the Avidyne drawing.

4.2.2.2 Assembly

Prior to the installation of the instrument panel complete the following steps:

1. Install eight (8) nut plates using 16 rivets identified below in Figure 4-3.
    - Floating nut plates (QTY 5): 150-00601-000 (MS21075L06N)
    - Fixed nut plates (QTY 3): 150-00602-000 (MS21071L06)
    - Rivets (QTY 16): 150-00260-000 (MS20426AD3-())

NOTE:
Rivet installation should be in accordance with NASM47196 and AC 43.13-1(x). See section 1.5 for a list of applicable reference documents.

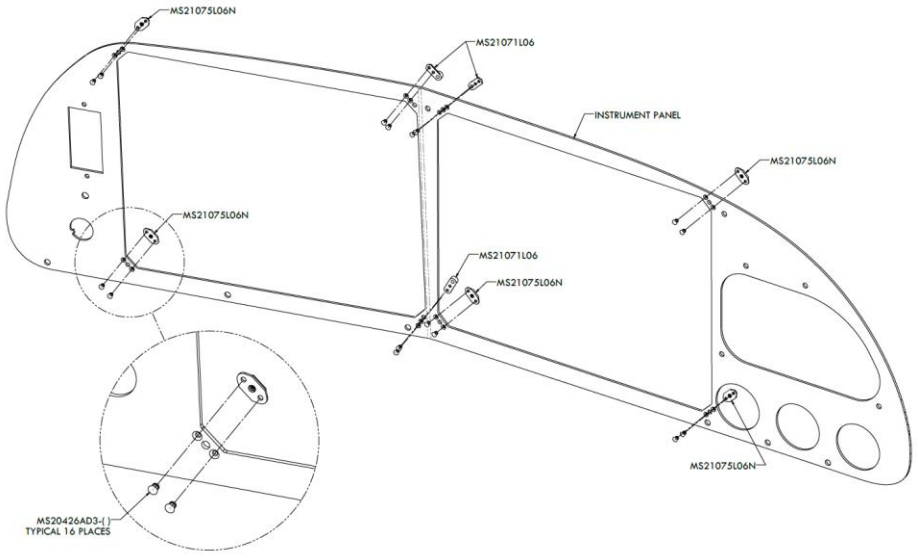


Figure 4-3: Instrument Panel Typical Nut-plate Installation

After completion of the nut plate installation,

2. Install the graphics overlay onto the instrument panel by:

a. Ensuring proper alignment while applying the overlay and avoiding air gaps or bubbles in the overlay by starting from the center and working towards the outer edges.

b. Using the included 150-00606-000 alignment pins as needed to assist in application of the overlay.

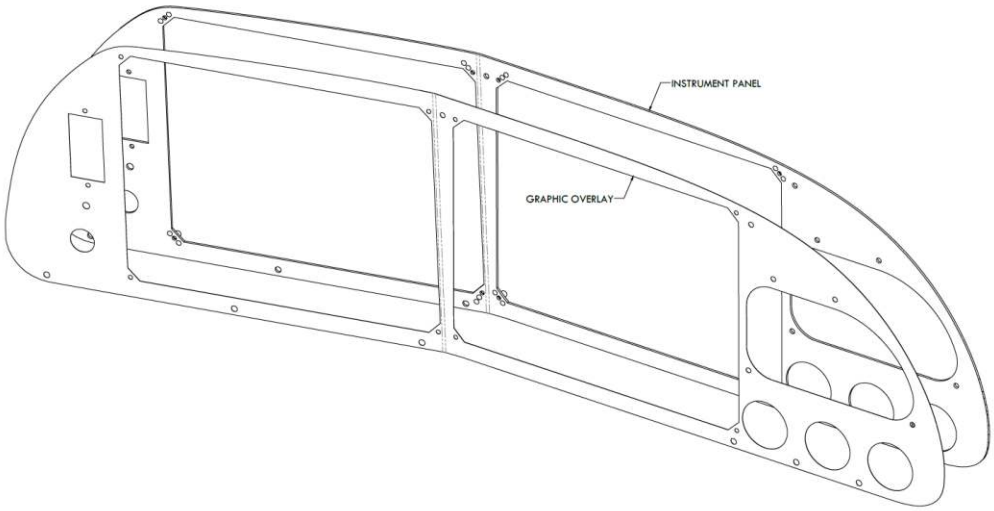


Figure 4-4: Instrument Panel Overlay Installation

4.2.3 Instrument Panel Installation

Install the instrument panel per the following instructions:

1. Utilizing the pilot-facing panel mount hardware provided in the 820-00134-000 component kit (see section 1.7) and other retained hardware, install the new instrument panel in the reverse order of removal. The hardware provided in the 820-00134-000 kit is shown in Figure 4-5:. Optionally, all retained hardware may be used instead of the hardware provided.

   Refer to Cirrus AMM, Chapter 31, Section 10 for instructions, if needed. See section 1.5 for a list of applicable reference documents. For a graphical illustration of the installation refer to Figure 4-6.

2. Apply placards in accordance with Cirrus IPC Chapter 11, Section 30 for applicable serial number.

NOTE:
Use of a non-Avidyne provided overlay, or other finish on the instrument panel is beyond the scope of this STC and requires separate approval.

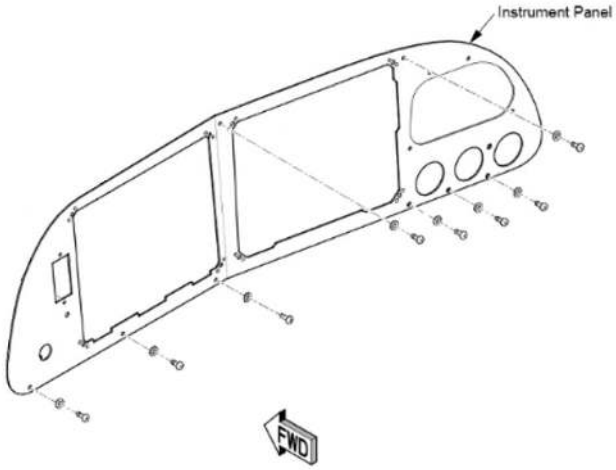


Figure 4-5: Panel Mount Hardware Provided

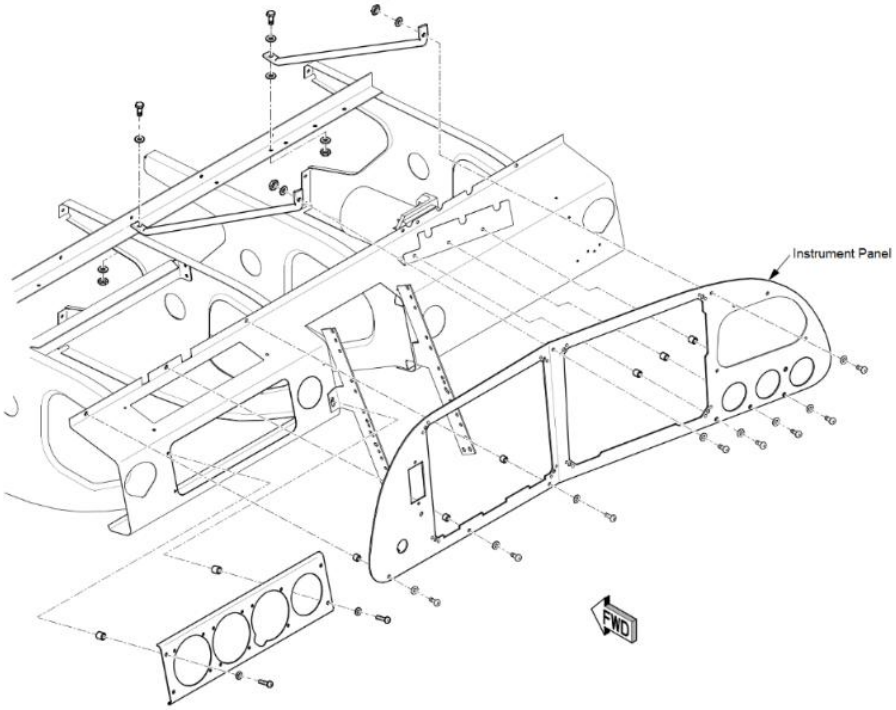


Figure 4-6: Install Vantage12 Instrument Panel

4.2.4 Pitot Static System Modifications

The existing pitot static system will require modification to accommodate the Vantage ADC900 equipment. The Pitot and Static connectors needed for attachment to the Vantage ADC900(s) will be provided in the 820-00132-000 component kit. Connections on the ADC900 are marked accordingly. Additionally, the Pitot connection is colored red, and the Static connection is colored blue. The connectors are keyed and **must** be installed on the correct tube to prevent issues during

installation of the ADCs. The Pitot connector has an additional relief in the mating end (see Figure 4-7). ADC900 units will be installed and connected in a later section.

Figure 4-7: ADC Connector Keying

NOTE:
It is recommended to mark the Pitot Static lines in the aircraft accordingly to help ensure correct connection.

Pitot Static pneumatic lines must be routed to provide positive drainage (inhibit water entrapment at the low point(s) of the tubing runs).

CAUTION:
Care must be taken to leave enough service loop in the pitot/static lines so that they do not interfere with removal of the PFD and/or MFD.

4.2.4.1 Single ADC900 Installation

For single ADC900 installations, no additional tubing should be required. Utilizing the existing pitot static lines that were previously connected to the Entegra PFD, simply replace the existing line fittings with included fittings:

- P/N: 030-00883-021 Pitot Connector, keyed
- P/N: 030-00883-020 Static Connector
- P/N: 130-00216-000 Nylon 90° Adapter (x2)
- P/N: 150-00619-000 (50925-025 or equivalent) Nylon Insert (x2)

4.2.4.2 Dual ADC900 Installation

For dual ADC900 installations, additional tubing will be required along with additional tee fittings. The following lists the additional equipment required. See details for routing and installation in Figure 4-8.

Provided in 820-00142-000:

- P/N: 150-00617-000 (50385-001 or equivalent) Nylon Union Tee (x2)
- P/N: 150-00618-000 (51228-002 or equivalent) Nylon Nut and Sleeve (x6)
- P/N: 150-00619-000 (50925-025 or equivalent) Nylon Insert (x6)

Provided in 820-00132-000 (x2):

- P/N: 030-00883-021 Pitot Connector, keyed (x2)
- P/N: 030-00883-020 Static Connector (x2)
- P/N: 130-00216-000 Nylon 90° Adapter (x4)
- P/N: 150-00619-000 (50925-025 or equivalent) Nylon Insert (x4)

Not Provided:

- P/N: 44P-1/4 ¼" Tubing or equivalent (As Required)

For installation, follow the steps below:

1. Route the additional tubing as illustrated per Figure 4-8: Dual ADC Pitot Static System Modification.

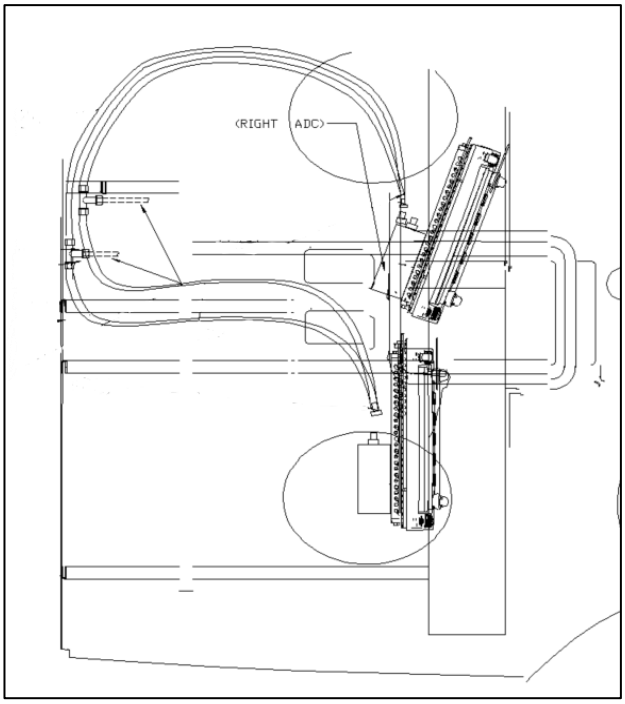


Figure 4-8: Dual ADC Pitot Static System Modification

4.3 Single Magnetometer

There is no magnetometer modification required for the baseline configuration which consists of a single magnetometer installation. The existing magnetometer will remain mounted in its factory location, and the existing wiring will be used.

4.4 Dual Magnetometer

In Dual Magnetometer installations, the original existing magnetometer is left in its original factory location with its original factory wiring in place.

The installation of the second magnetometer varies by aircraft serial number. The second magnetometer and OAT sensor are installed in the right-hand wing. Avidyne has developed two variations of a standoff locating tool. The locating tools are available in the 850-00326-000 dealer kit, which can be ordered by dealers/installers as needed. Both tools are designed for use with Click Bond Threaded Standoffs P/N: CB3001AA06-8. (Avidyne P/N: 150-00612-000)

- P/N: 130-00307-000 – Used for Pre-G3 aircraft
- P/N: 130-00307-001 – Used for G3 aircraft

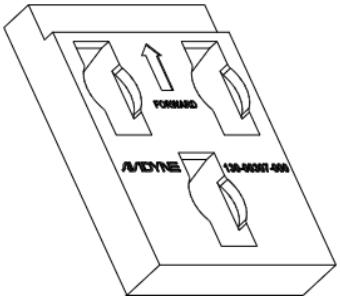


Figure 4-9: Standoff Locator Tool P/N: 130-00307-000 (Pre G3)

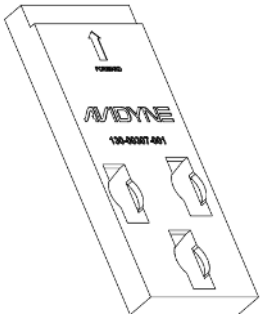


Figure 4-10: Standoff Locator Tool P/N: 130-00307-001 (G3)

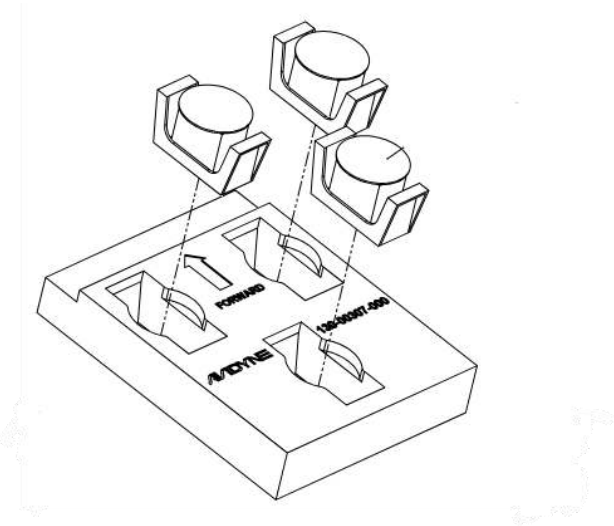


Figure 4-11: Loading the Threaded Standoffs into the Locator Tool

4.4.1 Dual Mag Installation

Note:
For Pre-G3 aircraft , Figure 4-12 and Figure 4-13 illustrate mounting locations and wire routing for installing the #2 Magnetometer.
For G3 aircraft, Figure 4-14 and Figure 4-15 illustrate mounting locations and wire routing for installing the #2 Magnetometer.

The adhesive and hardware required in this section are provided in the 820-00140-000 component kit. The official STC installation requirements are covered in the 900-00249-000 installation drawing provided on the Avidyne dealer portal. The steps below are provided for reference.

1. Route the EZ Adapter Mag 2 harness P/N: 100-00560-100 through existing conduit in the right wing, running wiring as close as possible to the existing harness.
2. Pre-G3 Aircraft:

   Measure and mark 17 inches +/- 1 inch from the outboard end of the wing structure.

   G3 Aircraft:

   Measure and mark 12 inches +/- 1 inch from the outboard end of the wing structure.
3. Insert threaded standoffs P/N: 150-00612-000 (CB3001AA06-8) into the locator tool as shown in Figure 4-11. Remove adhesive liner from standoff carriers.
4. Prepare wing surface per Clickbond standoff installation instructions. Only use solvents approved in the Cirrus Aircraft Maintenance Manual.
5. Place a dab of 150-00614-000 (Click Bond CB200) adhesive on the flat tops of the threaded standoffs. Work quickly; working time <5 minutes.
6. Pre-G3 Aircraft:

   Insert the loaded locator tool into the RH wing, aligning the forward lip of the locator tool along the forward spar, and the outboard side of the tool along your 17” +/- 1” measurement from the outboard end of the wing structure.

   G3 Aircraft:

   Insert the loaded locator tool into the RH wing, aligning the forward lip of the locator tool along the forward spar, and the outboard side of the tool along your 12” +/- 1” measurement from the outboard end of the wing structure.
7. Push the tool flush with the underneath side of the top wing skin.
8. Once satisfied with placement, push on the threaded standoffs from the underneath side of the locator tool, securing them to the underside of the wing with the carrier adhesive and previously applied CB200. Allow CB200 to cure per the manufacturer’s instructions.
9. After the CB200 adhesive has fully cured, remove standoff carriers and install magnetometer per Figure 4-16 using brass screws (150-00599-000/MS35214-27) included in kit 820-00140-000. Use the cable tie mounts (150-00613-000, included in kit 820-00140-000) and cable ties to secure the harness.
10. Create hole in inspection panel and fasten OAT probe per Cirrus Maintenance Manual/43.13B.
11. See complete details on Avidyne Dual Mag/OAT Installation Drawing 900-00249-000 (latest Rev).

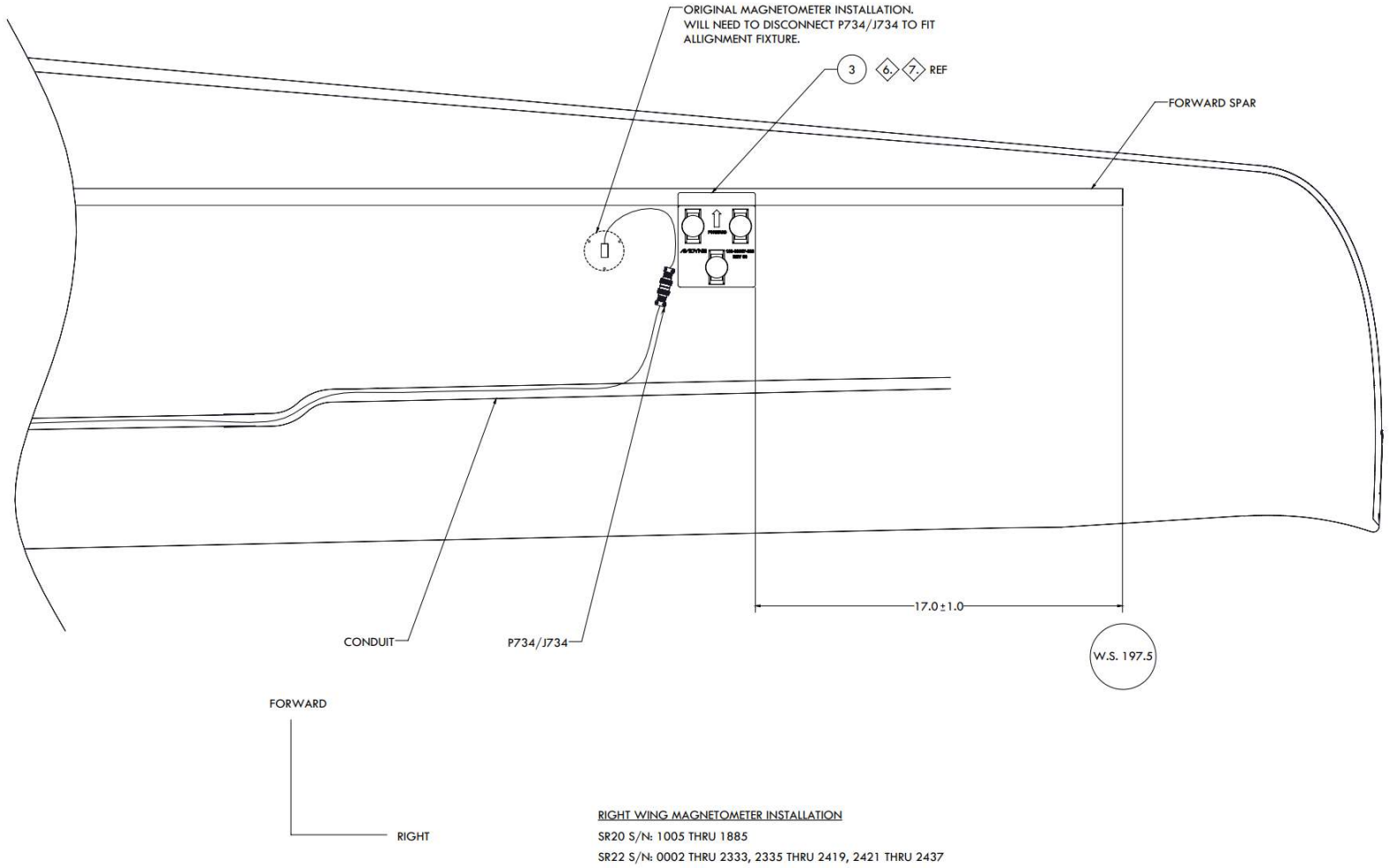


Figure 4-12: Pre G3 Magnetometer #2 Mounting Location

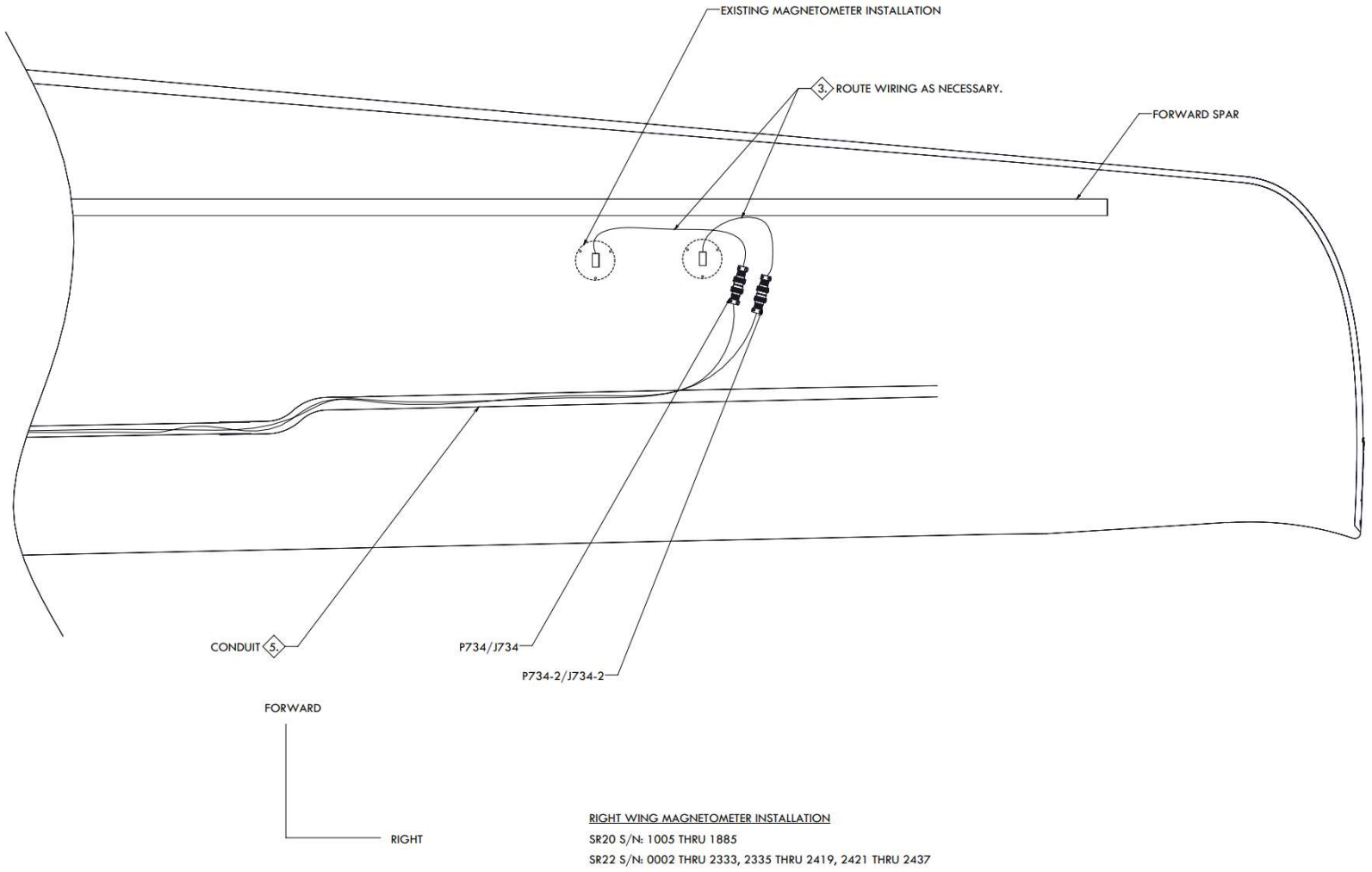


Figure 4-13: Pre G3 Magnetometer #2 Wire Routing

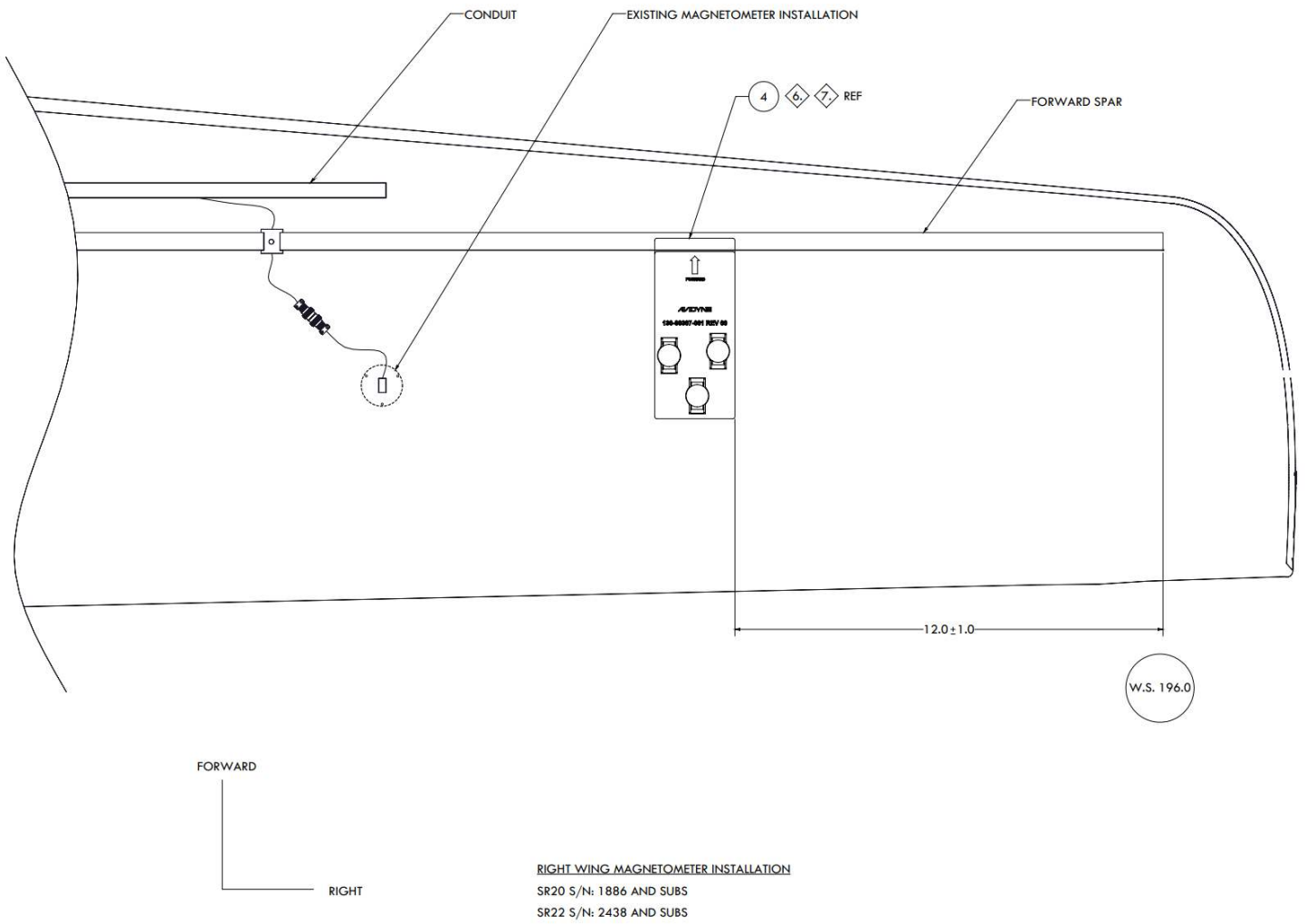


Figure 4-14: G3 Magnetometer #2 Mounting Location

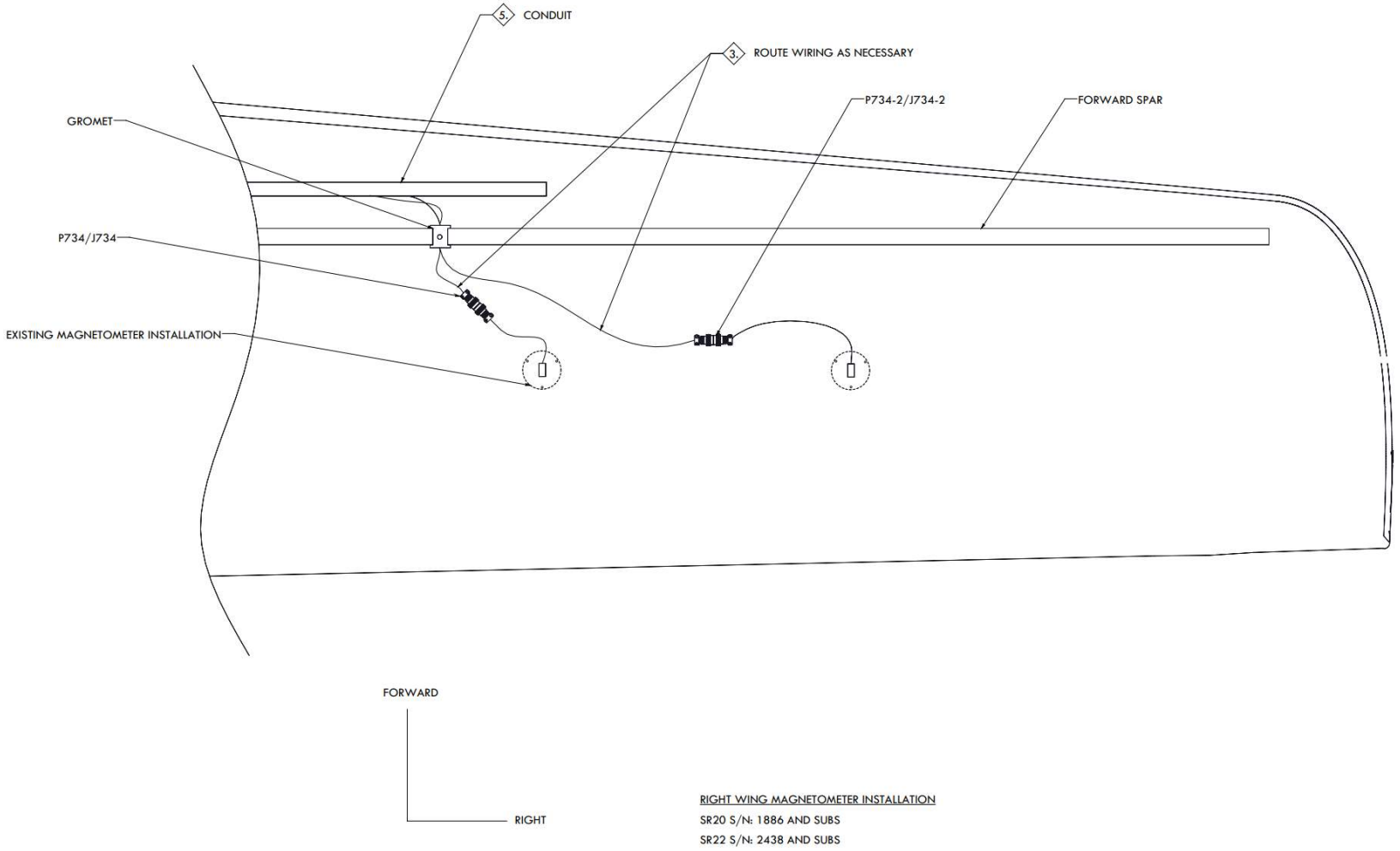


Figure 4-15: G3 Magnetometer #2 Wire Routing

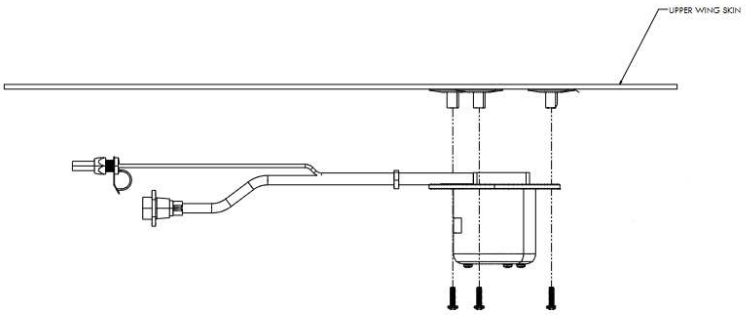


Figure 4-16: Magnetometer #2 Installation (All variants)

4.5 ADC900 Air Data Computer(s) Installation

The Air Data Computer installs on the rear of the PFD for a standard installation, and on the rear of both the PFD and the MFD for fully redundant installation. To install the ADC900, follow the steps below. The hardware used in this section is provided in the 820-00132-000 component kit.

1. For both standard and fully redundant installations, as illustrated in Figure 4-17, using 4X 150-00595-000 (MS35206-228) screws and 4X 150-00596-000 (NAS1149FN632P) washers, fasten the ADC900 to the back of the Vantage12 displays.

CAUTION:
Fasteners should be torqued to 6.5 - 7.5 IN-LBS.

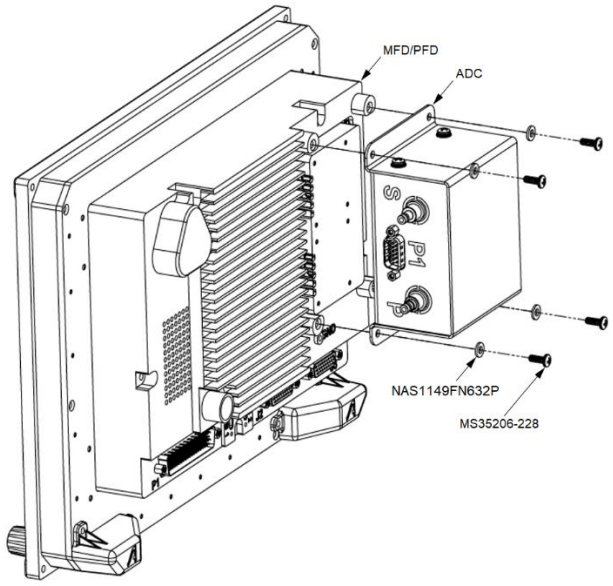


Figure 4-17: ADC Installation on Vantage Display

4.6 EZ Adapter Installation

Avidyne EZ Adapters are designed to allow for easy connection to the existing aircraft wiring harness. Each Vantage12 installation kit will include two (2) EZ Adapters, one for the PFD and one for the MFD.

CAUTION:
Take care to ensure the PFD EZ adapter is installed on the PFD and the MFD EZ Adapter is installed on the MFD, see section 4.2.1.1.

NOTE:
The EZ Adapter mechanical installation procedure is identical on both the PFD and the MFD. The EZ Adapter with the relay socket on it will always get installed on the PFD.

Install the EZ Adapter to the Vantage Display following the steps below:

1. Locate P735 in the aircraft.

   P735 is located on the pilot side inboard rib forward of where the PFD would be, see Figure 4-18: P735 Fail Safe Relay and Location.

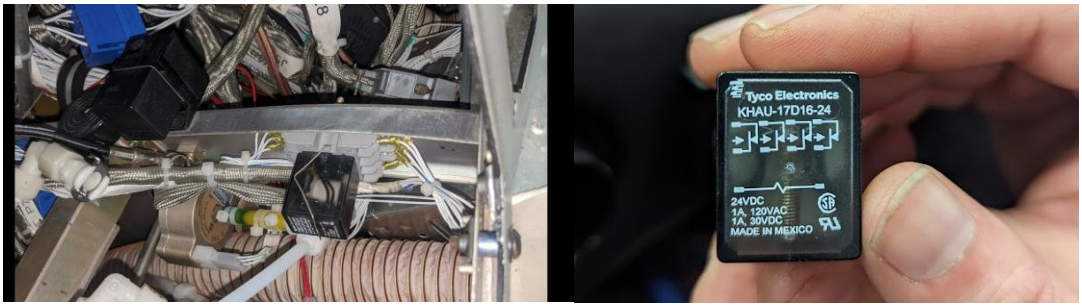


Figure 4-18: P735 Fail Safe Relay and Location

2. Remove the relay P/N: KHAU-17D16-24 from P735, take care to keep the retainer clip as well.

3. Install the removed relay and retainer clip onto the relay socket on the PFD EZ Adapter. See Figure 4-19: PFD EZ Adapter with Fail Safe Relay Installed.

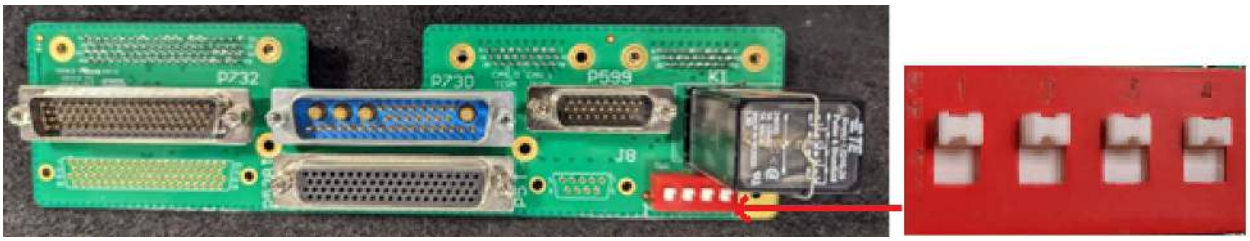


Figure 4-19: PFD EZ Adapter with Fail Safe Relay Installed

4. For Single Magnetometer Installations, set dip switch positions 1-4 on both the PFD and MFD EZ Adapters SW1 to the UP position, see Figure 4-19: PFD EZ Adapter with Fail Safe Relay Installed

   This closes the switches, which will allow a single magnetometer to be fed to both displays via the EZ Adapter Harness P/N: 100-00560-000

5. For Dual Magnetometer Installations, set dip switch positions 1-4 on both the PFD and MFD EZ Adapters SW1 to the DOWN position, opposite to image shown in Figure 4-19: PFD EZ Adapter with Fail Safe Relay Installed.

   This opens the switches, allowing the PFD to receive data ONLY from the original factory magnetometer via the original aircraft harness, and allows the MFD to receive data ONLY from the newly installed 2nd magnetometer via the second magnetometer harness P/N: 100-00560-100

Table 4-1: EZ Adapter DIP Switch Settings

ADC/MAG Install	DIP switch selections for BOTH EZ Adapters
Single ADC/MAG Install	↑ ↑ ↑ ↑ (up, up, up, up)
Dual ADC/MAG Install	↓ ↓ ↓ ↓ (down, down, down, down)

6. Affix the EZ Adapter to the back of Vantage12 Display using screws provided in the kit (820-00139-XXX), see Figure 4-20. Short screws interface with the connector jackscrews on the Vantage unit, longer screws are used with spacers to the back of the display

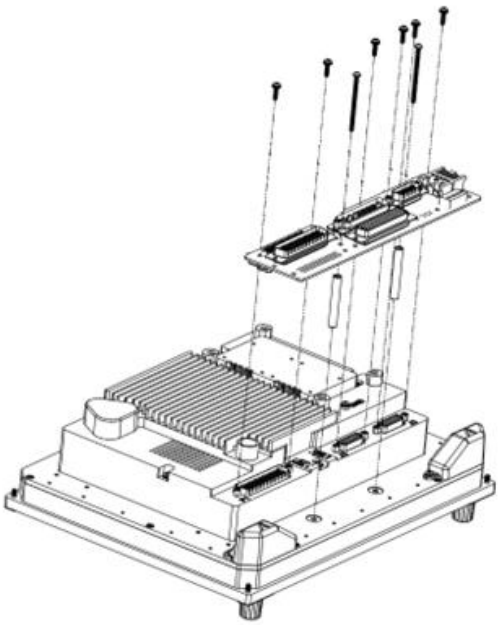


Figure 4-20: EZ Adapter Mechanical Installation

7. Install the existing Entegra Display connectors into the EZ Adapter mating connectors for both the PFD and MFD, see Figure 4-21: EZ Adapter Mating Connectors. The PFD will have 2 connections made for SIU aircraft and 3 connections for DAU aircraft.

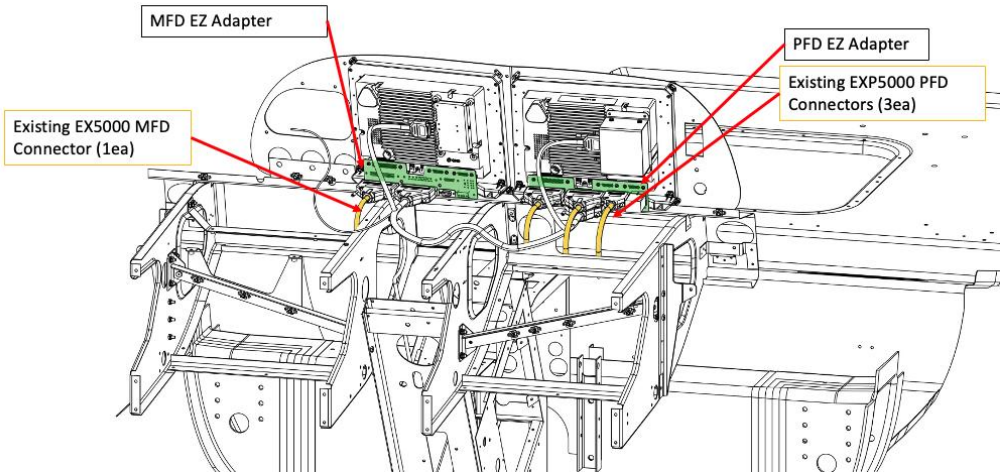


Figure 4-21: EZ Adapter Mating Connectors

8. Install the EZ Adapter harness P5 connectors (P5) to the respective EZ adapter connectors (PFD or MFD) as pictured in blue, Figure 4-22.

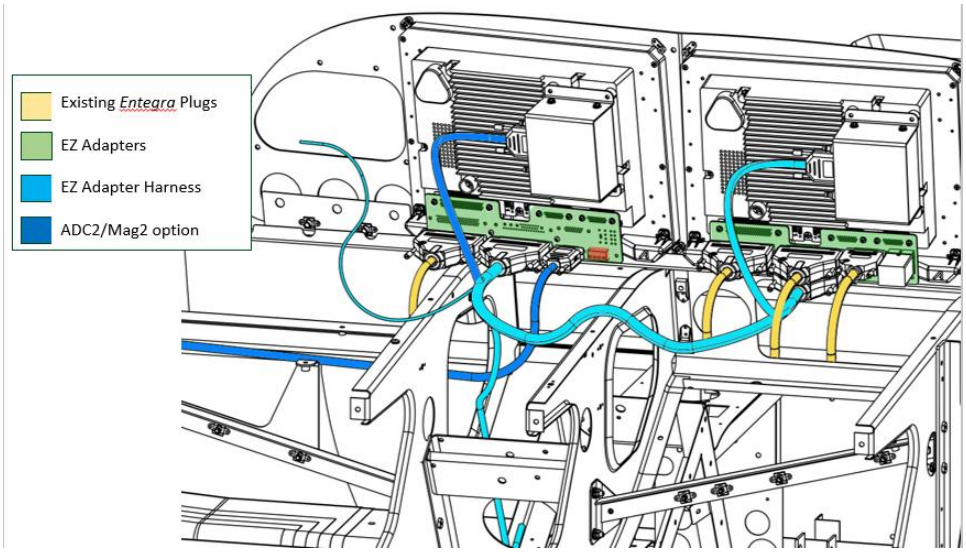


Figure 4-22: EZ Adapter Harness Connection

4.7 Air Data Computer Connection

Connect the EZ Adapter harness ADC connectors to their respective ADC(s). If the installation is single ADC, bag and stow the MFD ADC connector.
Connect the Pitot and Static lines to the ADC900 Pitot and Static ports. The Pitot Static connectors are quick disconnects. There is only one way that the quick disconnect connectors can both be attached to the ADC900 connection posts due to an extra keying ring on the Pitot connection post.
The Pitot quick disconnect, 030-00883-021, is custom and has a relief to match the keyed Pitot post on the ADC900. (Note: since the key on the Pitot post is a larger diameter, the Pitot quick disconnect will physically clip onto both posts on the ADC900).
The Static quick disconnect, 030-00883-020, does not have the relief for the key on the Pitot post, so it will only mate with the correct Static post on the ADC900.

4.8 Display Installation

Install the Vantage12 displays per the following steps:

1. Prior to installation of the displays into the instrument panel, ensure all electrical connections and ADC900 installation steps have been completed.
2. Per Figure 4-23: Vantage Display Installation, fasten the Vantage12 displays using a 7/64” hex driver on the captive screws.

CAUTION:
Fasteners should be torqued to 6.5 - 7.5 IN-LBS.

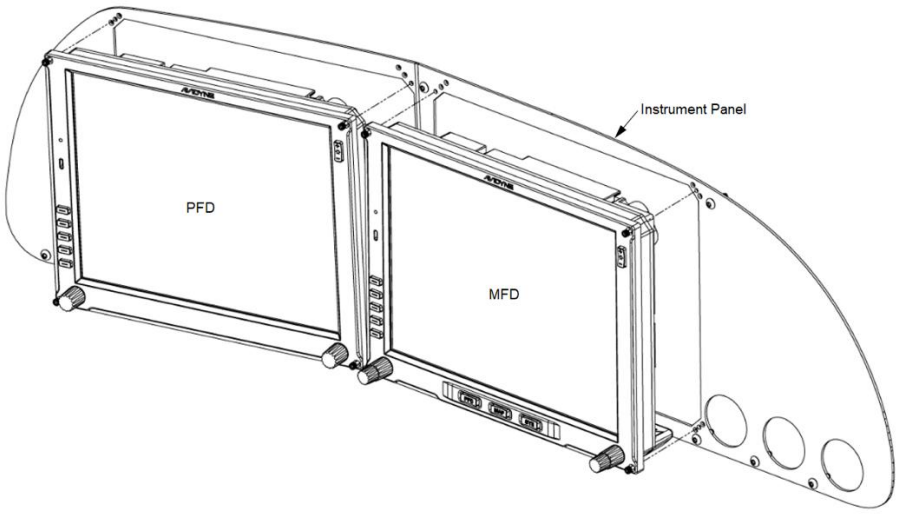


Figure 4-23: Vantage Display Installation

4.9 Glareshield Installation

The existing / previously removed glareshield should not require modification. In some cases, it may be necessary to rotate the tinnerman nuts from a lower position to an upper position to accommodate the existing screw holes in the glareshield.

NOTE:
It is recommended to refer to section 5.4 of this manual prior to installing the glareshield, as the IRU calibration may require the glareshield to be removed.

4.10 Weight and Balance

After installing the Vantage System, the aircraft weight and balance must be updated.

4.11 External Cooling

The Vantage12 displays have internal cooling fans for circulating air into and out of the display. No external cooling source is required.

5 System Configuration and Checkout

5.1 IFD GPS/Com/Nav Configuration

The following section describes the IFD configuration settings that are required for compatibility with Vantage12 for Cirrus installations.

> **NOTE:**
> For complete IFD configuration instructions refer to IFD4xx / 5xx Part 23 STC Installation Manual P/N: 600-00299-000 (latest revision).

5.1.1 IFD Software Verification

To verify the IFD software installation, follow the steps below:

1. Boot the IFDs normally into “flight mode.”

2. Using the AUX key on the IFDs, toggle over to the “SYS” tab, and verify the displayed S/W Version is 10.3.2.2 or later.

3. If the S/W Version is older than 10.3.2.2, update the software to 10.3.2.2 or later revision as is displayed in Figure 5-1.

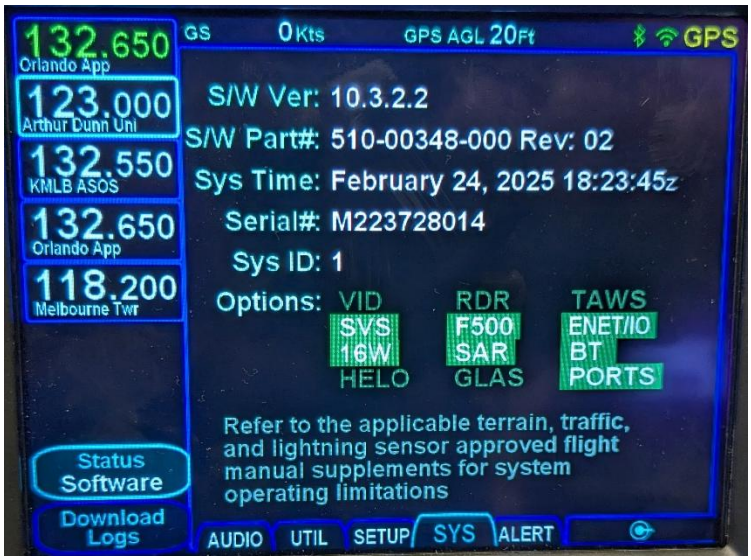


Figure 5-1: IFD Software Verification Page

5.1.2 IFD Chassis ID Settings

For Vantage12 installations, it is necessary that the proper chassis ID settings are established for each installed IFD. The IFD Chassis ID is configured via dip switches along the right side of the IFD chassis. The Chassis ID will set the data bus address of the installed units.

Set the Chassis IDs by following the steps below:

1. Locate the dip switches on the rear right hand side of the IFD chassis, see Figure 5-2: IFD Chassis ID Setting.

Figure 5-2: IFD Chassis ID Setting

2. Set the dip switches in accordance with Table 5-1: IFD Chassis ID Configuration, below.

Table 5-1: IFD Chassis ID Configuration

IFD Position Designation	DIP switch selections
IFD #1	↑ ↑ ↑ (up, up, up)
IFD #2	↓ ↑ ↑ (down, up, up)

5.1.3 IFD ARINC429 Configuration

To verify the ARINC429 configuration, follow the steps below:

1. Using the AUX key on the IFDs, toggle over to the “CONFIG” tab, and verify that the ARINC429 IN 1 is configured for “EFIS/Air Data” and “Low Speed.”, see Figure 5-3: IFD Main ARINC429 Configuration Page.
2. Consider de-configuring ARINC429 traffic devices if configuration was copied from factory installation. A traffic input should only be configured on one IFD/MFD in the system.

NOTE:
For all other ARINC429 Configurations refer to Avidyne IFD5xx / 4xx Part 23 STC Installation Manual P/N: 600-00299-000 (latest revision).

Figure 5-3: IFD Main ARINC429 Configuration Page

5.1.4 IFD Cross-sync Configuration

To verify the IFD "Cross-Sync" configuration, follow the steps below:

1. Using the AUX key on the IFDs, toggle over to the "CONFIG" tab, and verify that "Cross-Sync" is configured for RS232 IN and OUT port 3.

NOTE:
For all other RS232 Configurations refer to Avidyne IFD5xx / 4xx Part 23 STC Installation Manual P/N: 600-00299-000 (latest revision).

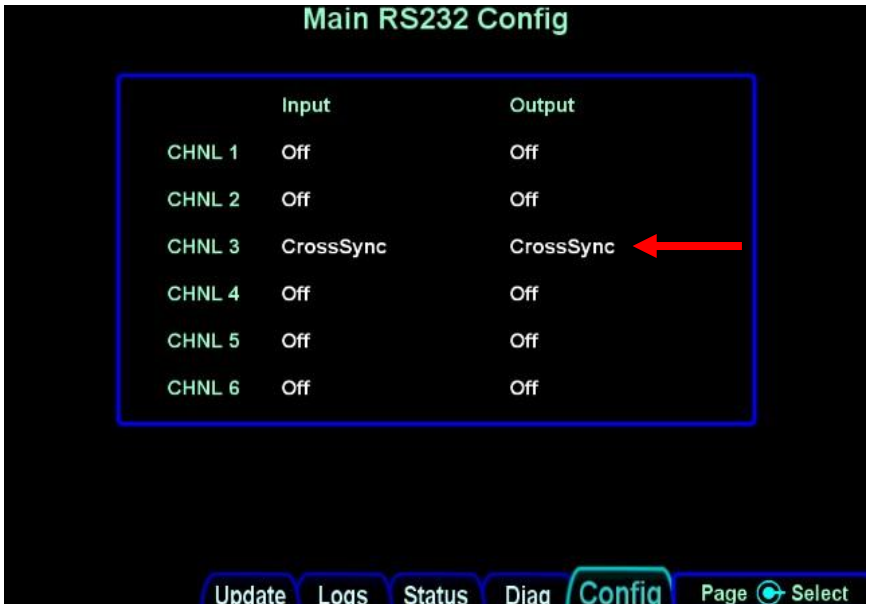


Figure 5-4: IFD Main RS232 Configuration Page

5.1.5 IFD System Type Configuration

There are two options for IFD system configuration as described in Table 5-2. To set the system type configuration, follow the steps below:

1. Using the AUX key on the IFDs, toggle over to the “CONFIG” tab.

2. Verify that the System Type is set to “Vantage.”

3. If the System Type is set to “Legacy”, select “Vantage” as shown in Figure 5-5 and press the ENTR LSK.

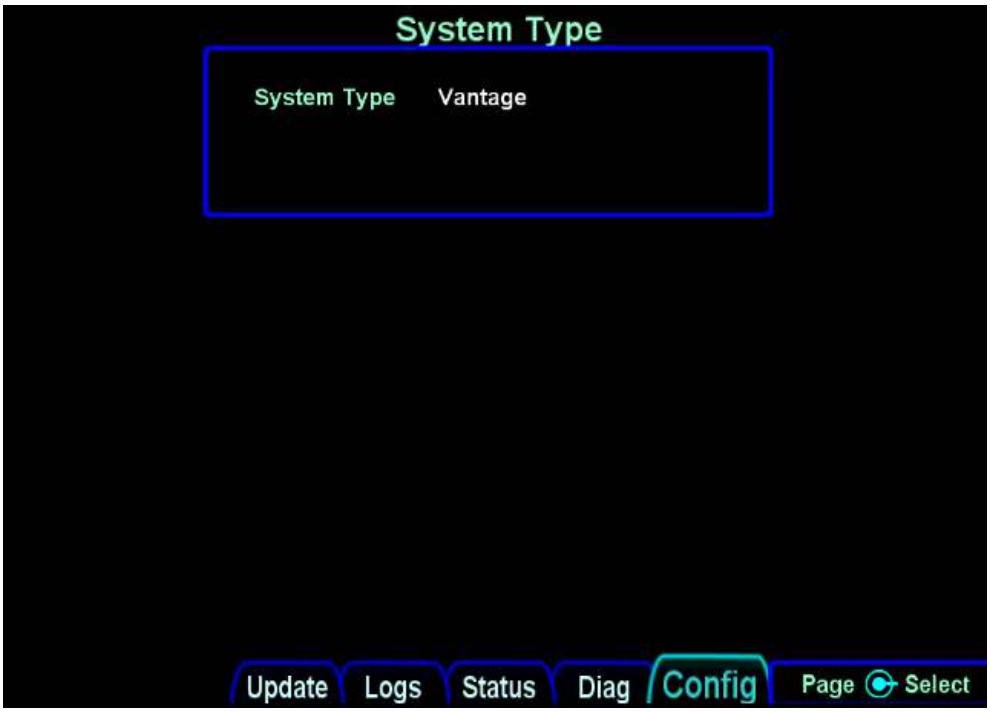


Figure 5-5: IFD System Type Configuration Page

Table 5-2: IFD System Type Configuration Options

Selection	Description
Legacy	The Legacy Setting applies to IFD installations that are NOT connected to a Vantage display
Vantage	The Vantage setting is REQUIRED on all Vantage installations

5.2 PFD Configuration

5.2.1 Access Maintenance Mode in PFD and MFD

The following sections require the PFD and MFD to be in maintenance and configuration mode. To access maintenance and configuration mode, follow one of the two alternative steps below:

1. Boot the PFD in “flight mode”

2. Hold in the Left Side #1 and #3 Line Select Keys.

The system will then change to the “Software and Database Status” Page.

3. Select “Update Databases” or “Download Logs” which will reboot the PFD into Mx Mode after confirming the choice.

Alternatively:

1. Insert a USB drive into the USB port on the front of the display.

2. Power on the PFD.

For accessing maintenance mode in the MFD, follow the steps below:

1. Boot the MFD in “flight mode”

2. Navigate to the SYS Page Group, and select the SYS Tab

3. Toggle to the “Status” soft key until it displays the System Status Page.

The system will then change to the “Software and Database Status” Page.

4. Select “Update Databases” or “Download Logs” which will reboot the PFD into Mx Mode after confirming the choice.

Alternatively:

3. Insert a USB drive into the USB port on the front of the display.

4. Power on the MFD.

NOTE:
Configuration Mode can only be accessed on the ground.

5.2.2 Password Protection PIN Configuration

Entering a 4-digit PIN on this page IS NOT REQUIRED. If you do not want to protect the configuration settings do not enter a PIN and simply move on to the remaining configuration pages. If you do enter a PIN make sure that you save it because once the configuration pages are set up, they cannot be changed without first entering the PIN number.

If you have chosen to enter a PIN on page 1 of the Config tab you will see the PIN number in the Enter PIN text box and directly below you will see “Current PIN: followed by the PIN number entered. See Figure 5-6. Once the PIN is entered continue configuring the remaining pages and after exiting maintenance mode the configurations cannot be changed without first entering the PIN.

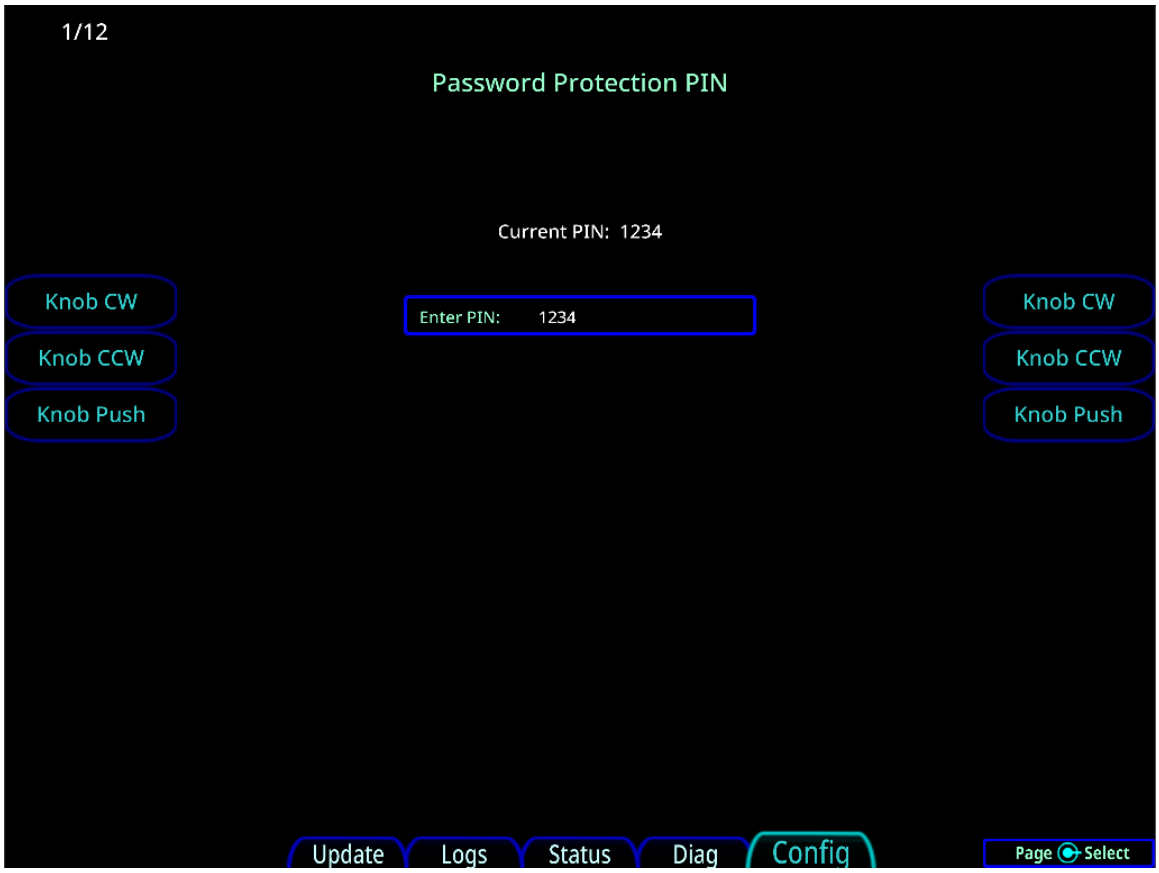


Figure 5-6: Maintenance Mode PIN Set

If you are making changes to the Config pages that are PIN protected and have not entered the correct PIN prior to making the changes you will see the title of the Config page and directly underneath the title in yellow lettering “PASSWORD-PROTECTED”, see Figure 5-7. If you see this, none of the changes you make will be retained. If you have forgotten the PIN or do not know the PIN contact Avidyne Technical Support at techsupport@avidyne.com and a .dsf file will be sent to you to clear the PIN.

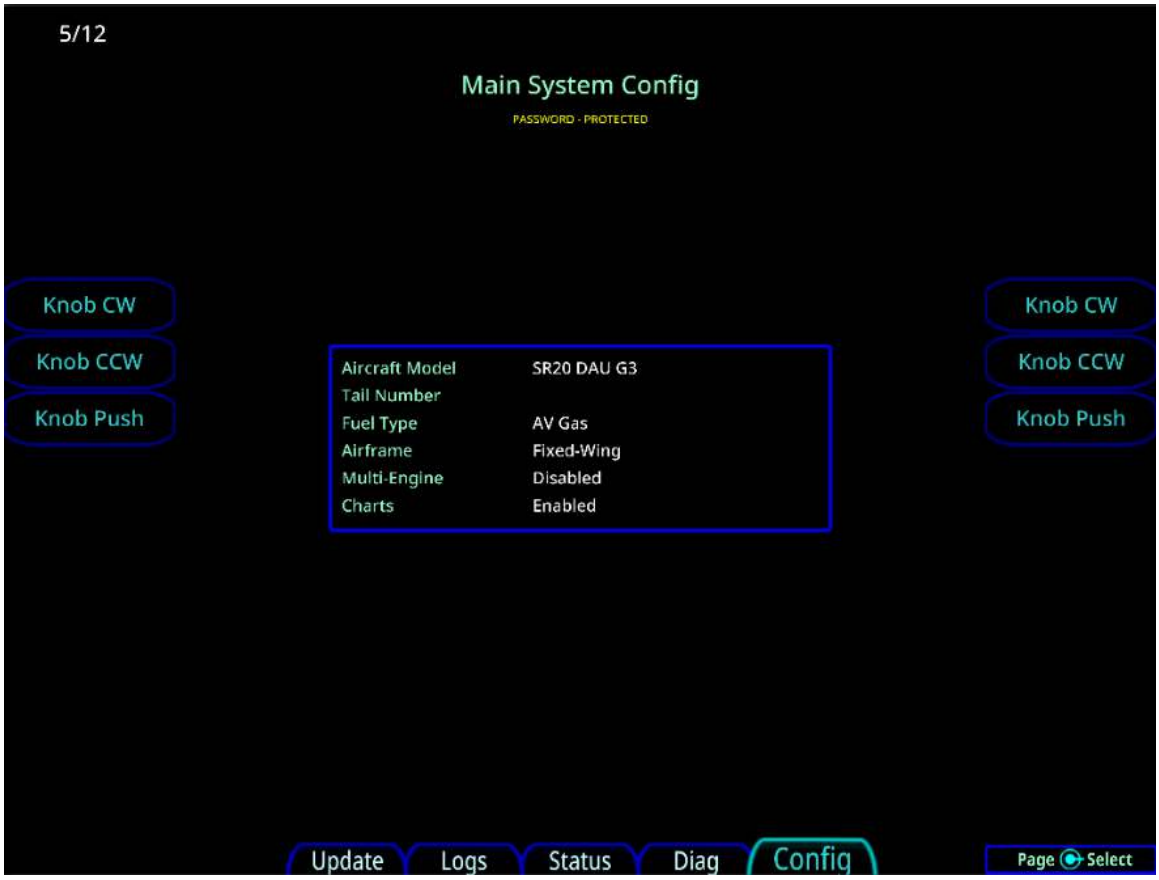


Figure 5-7: Maintenance Mode Password-Protected Page

5.2.3 PFD CAN Bus Configuration

The CAN Bus configuration page is used to configure the Vantage PFD CAN Bus ports. The CAN Bus configuration options are described in Table 5-3 below.

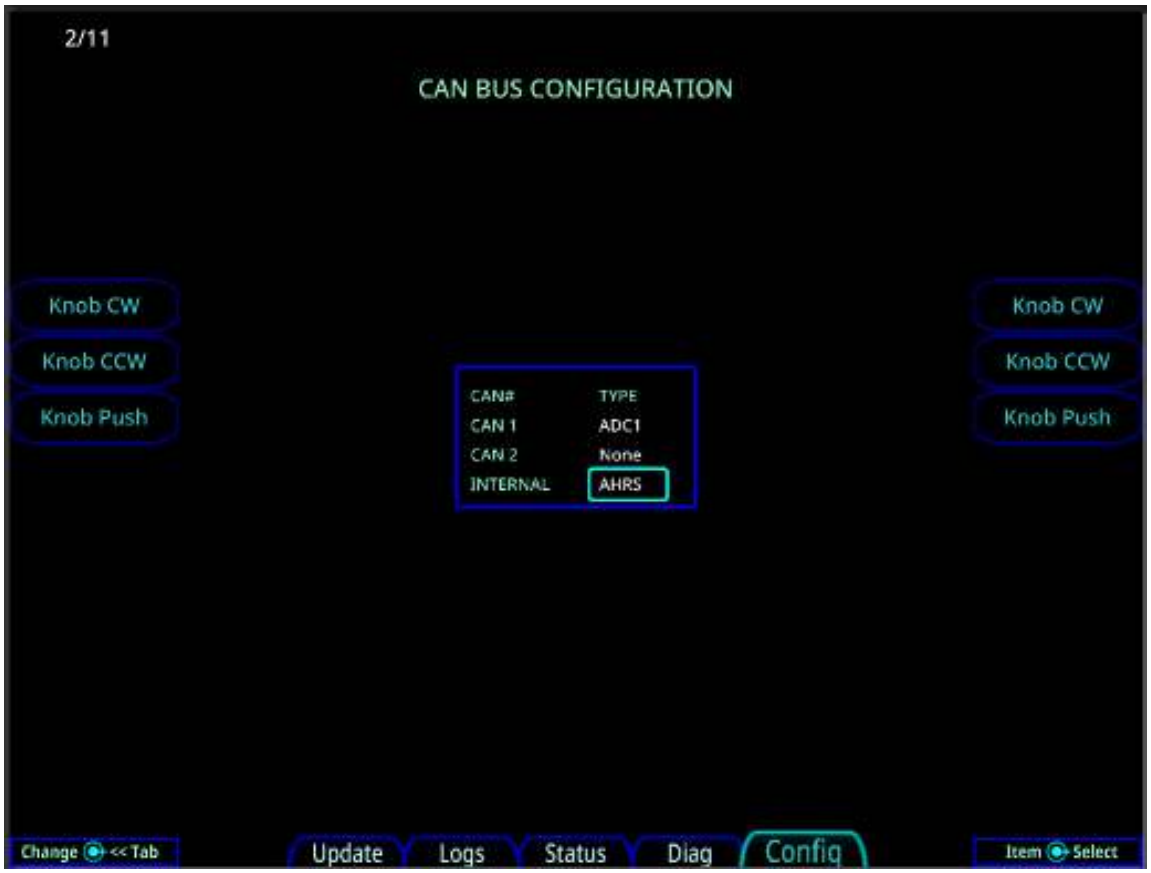


Figure 5-8: PFD CAN Bus Config Page

Table 5-3: PFD CAN Bus Configurations

Selection	Description
CAN 1	Set for ADC1
CAN 2	For Vantage12 Installations set to “NONE”
INTERNAL	Set to “AHRS” in all Vantage12 installations

5.2.4 PFD Main ARINC-429 Configuration

This configuration page is used to configure the Vantage ARINC 429 ports. The ARINC429 Speeds and “Data Selection” Output configuration options are described in Table 5-4 and Table 5-5, respectively.

To configure the PFD main ARINC-429 configuration page, follow the steps below:

1. Navigate to the “CONFIG” Tab on the SYS Page.

2. Set the PFD ARINC429 In 1 to “OFF”.

3. Set the PFD ARINC429 Out 1 to “PFD”.

4. Set the PFD ARINC429 In 2 and Out 2 to “OFF”.

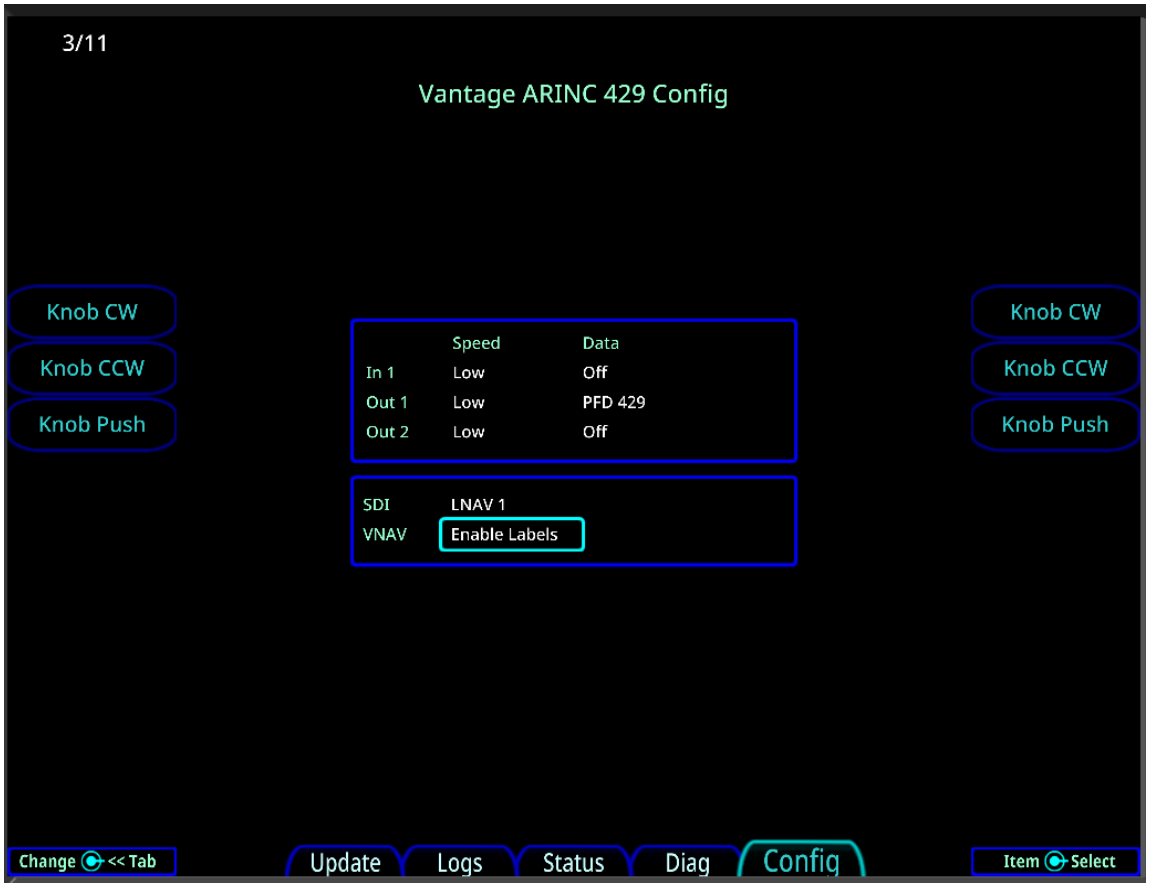


Figure 5-9: PFD ARINC 429 Config Page

Table 5-4: ARINC 429 Line Speeds

Selection	Description
Low	Standard Low Speed ARINC429 (Nominally 12.5Kb per second)
High	High-Speed ARINC429 (Nominally 100Kb per second)

Table 5-5: PFD ARINC429 Output Configurations

Selection	Description
PFD 429	Outputs the following ARINC 429 Labels: 100G – Selected CRS 121 – Horz CMD 161 – Density Altitude 203 – Pressure Altitude 204 – Baro Corrected Altitude 210 – True Airspeed 211 – OAT 235 – Baro Setting 312 – GS 320 – Mag HDG 206 – Computed Airspeed 212 – Altitude Rate

Selection	Description
	324 – Pitch 325 – Roll 332 – Lateral Acceleration 335 – HDG Rate

5.2.5 PFD Main Serial Configuration

This configuration page is used to configure the Vantage PFD Serial ports. Vantage12 displays contain 8 separate and configurable serial ports. The PFD serial port configuration options are described in Table 5-6.

When “Port Type” is configured for RS232, that serial channel will have 1 RS232 RX, and 1 RS232 TX. When “Port Type” is configured for RS422, that channel’s pins become either an RS422 TXA and TXB, or an RS422 RXA and RXB.

After port configuration is finished, reboot the display before continuing with configuration.

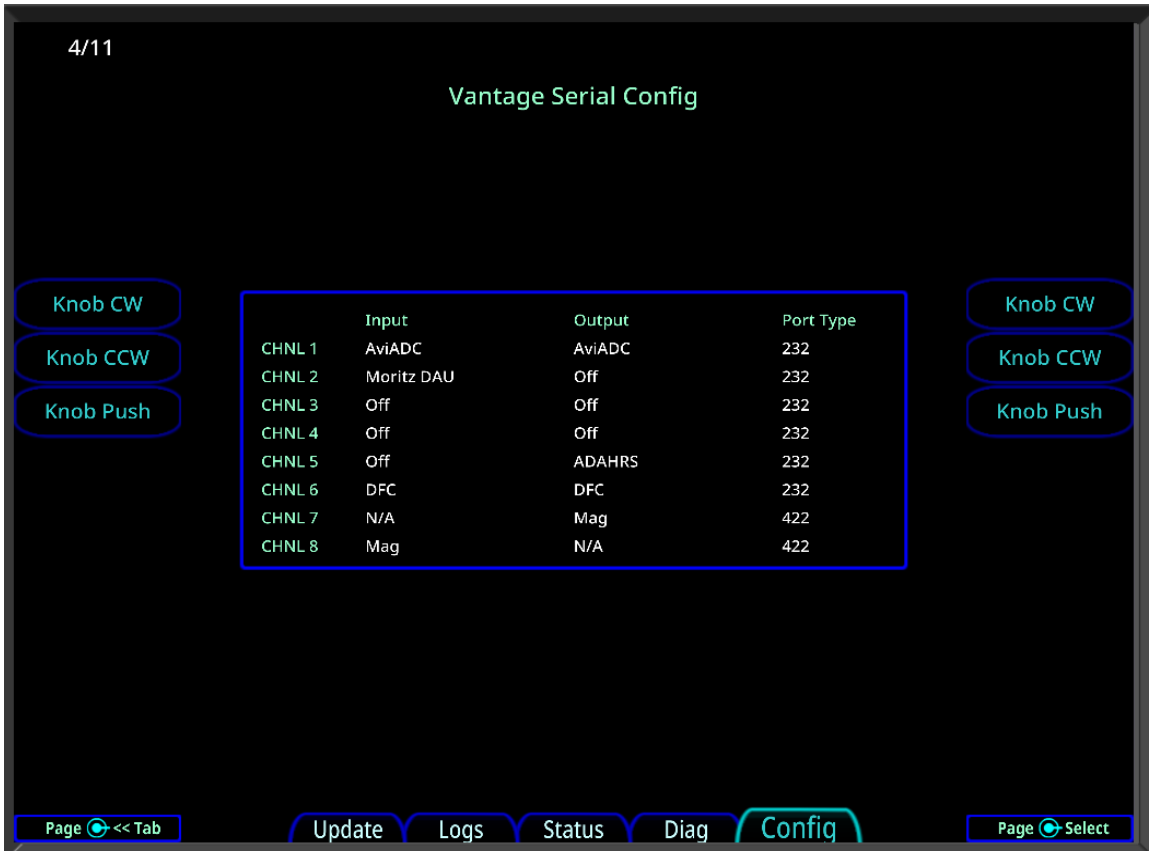


Figure 5-10: PFD Serial Config Page

Table 5-6: PFD Serial Configurations

PFD Serial Port		Configuration	Description
PFD Channel 1 Input	Port Type “RS232”	For Dual ADC Installations: “AviADC” For Single ADC Installations: “OFF”	Dual ADC: Provides a backup path to/from the PFD for ADC #2 Single ADC: Not Used
PFD Channel 1 Output	Port Type “RS232”	For Dual ADC Installations: “AviADC” For Single ADC Installations: “OFF”	Dual ADC: Provides a backup path to/from the PFD for ADC #2 Single ADC: Not Used
PFD Channel 2 Input	Port Type “RS232”	DAU Equipped Aircraft: “Moritz DAU” SIU Equipped Aircraft: “OFF”	Receives Engine Data from the Moritz DAU
PFD Channel 2 Output	Port Type “RS232”	For all V12 Installations: “OFF”	Not Used
PFD Channel 3 Input	Port Type “RS232”	For all V12 Installations: “OFF”	Not Used
PFD Channel 3 Output	Port Type “RS232”	For all V12 Installations: “OFF”	Not Used
PFD Channel 4 Input	Port Type “RS232”	For all V12 Installations: “OFF”	Not Used
PFD Channel 4 Output	Port Type “RS232”	For all V12 Installations: “OFF”	Not Used
PFD Channel 5 Input	Port Type “RS232”	For all V12 Installations: “OFF”	Not Used
PFD Channel 5 Output	Port Type “RS232”	For all V12 Installations: “ADAHRS”	Provides ADAHRS data to the DFC90 via the K1 Relay
PFD Channel 6 Input	Port Type “RS232”	For all V12 Installations: “DFC”	Receives FD, Command, and Mode Select data from the DFC90
PFD Channel 6 Output	Port Type “RS232”	For all V12 Installations: “DFC”	Provides Command/Control data to the DFC90 via the K1 Relay
PFD Channel 7 Input	Port Type “RS422”	For all V12 Installations: “N/A”	Becomes the other channel of RS422 Out
PFD Channel 7 Output	Port Type “RS422”	For all V12 Installations: “MAG”	Provides PFD Data to the #1 Magnetometer
PFD Channel 8 Input	Port Type “RS422”	For all V12 Installations: “MAG”	Provides HDG Data to the PFD from the #1 Magnetometer
PFD Channel 8 Output	Port Type “RS422”	For all V12 Installations: “N/A”	Becomes the other channel of RS422 In

5.2.6 PFD Main System Config

This configuration page is used to configure the Vantage PFD Main Systems. The main systems configuration options are described in Table 5-7.

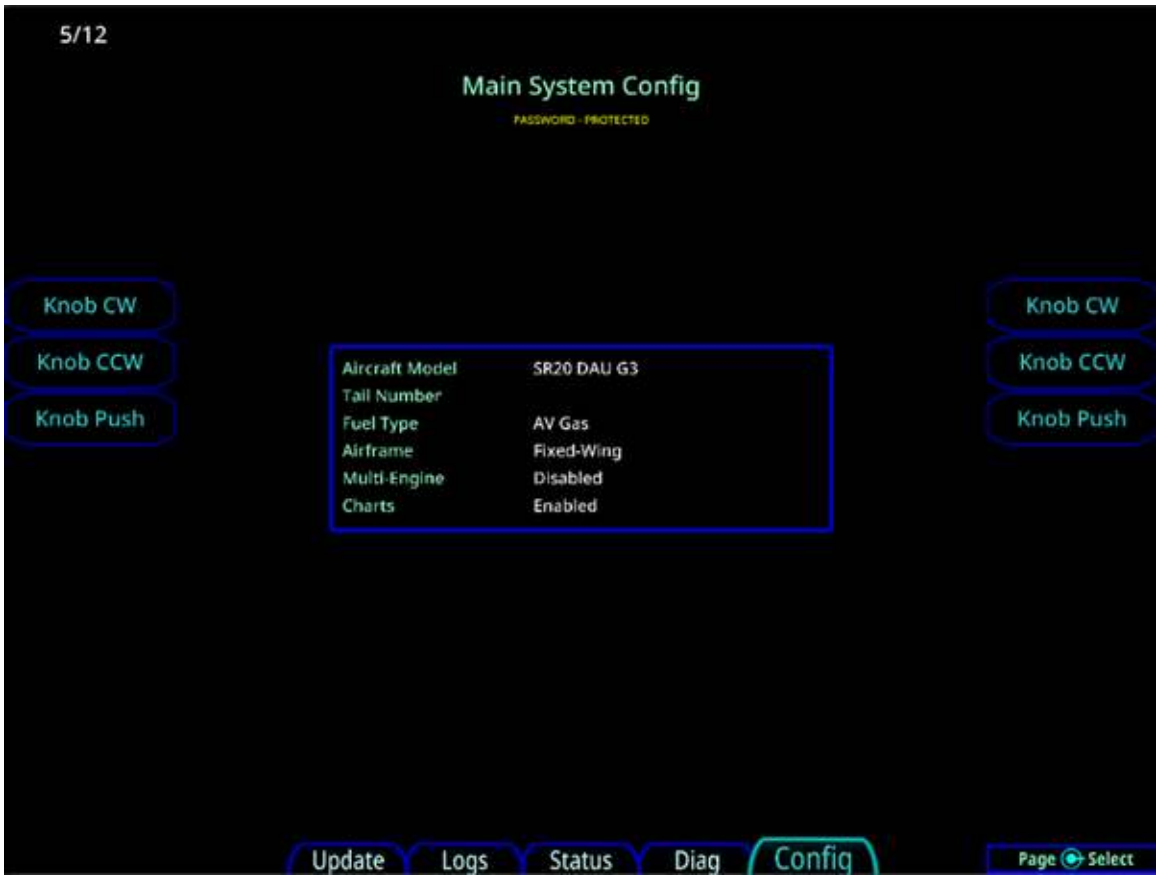


Figure 5-11: PFD Main System Config Page

Table 5-7: PFD Systems Configuration Options

Selection	Description
Aircraft Model	Set for appropriate aircraft model
Tail Number	Set to match the aircraft tail number
Fuel Type	All V12 Installations: AV Gas
Airframe	All V12 Installations: Fixed Wing
Multi-Engine	All V12 Installations: Disabled
Charts	Enabled

5.2.7 PFD DFC Config

NOTE:
This page will not appear until the display is rebooted after initial serial port configuration.

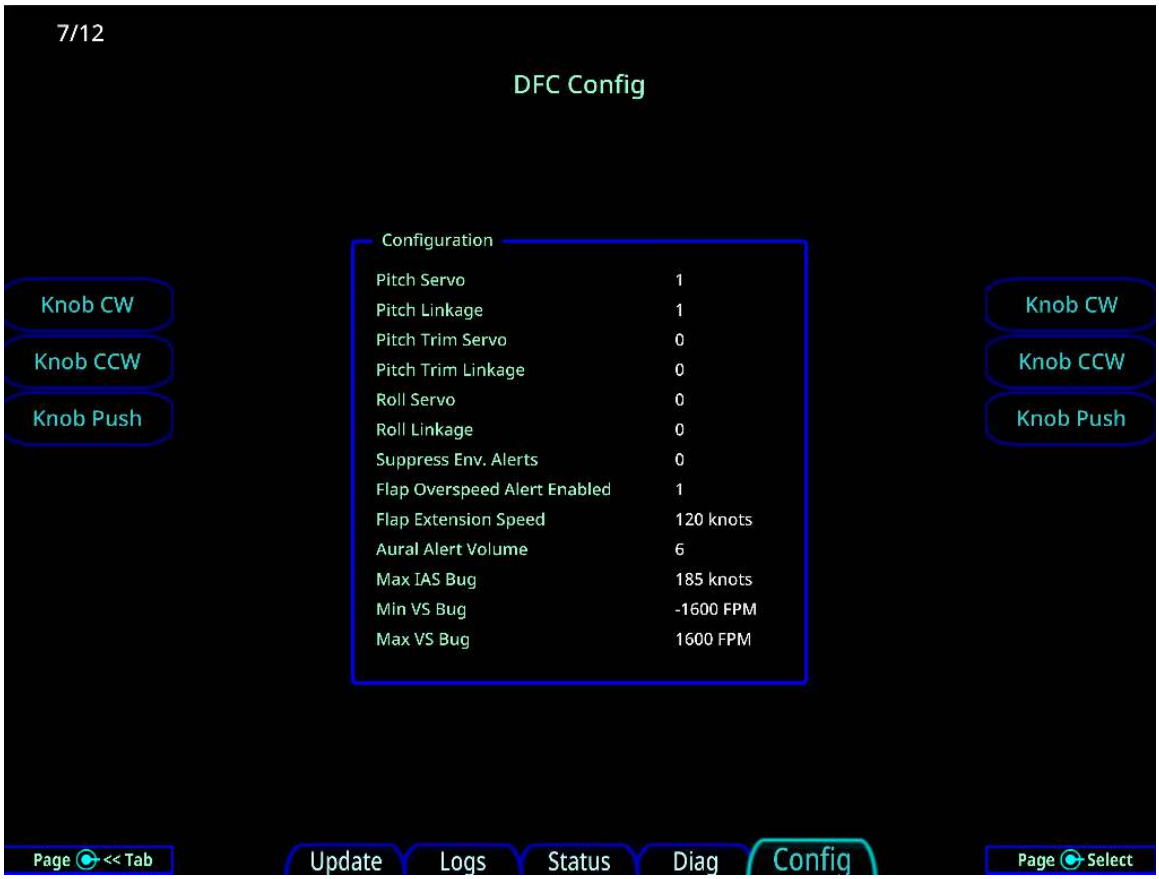


Figure 5-12: PFD DFC Config Page

Table 5-8: DFC Config Settings

Selection	Description
Pitch Servo	If aircraft has pitch servo: 1 If aircraft only has pitch trim servo: 0
Pitch Linkage	If aircraft has pitch servo: 1 If aircraft only has pitch trim servo: 0
Pitch Trim Servo	Set to 0
Pitch Trim Linkage	Set to 0
Roll Servo	Set to 0
Roll Linkage	Set to 0
Suppress Env. Alerts	Suggested setting: 0
Flap Overspeed Alert Enabled	Suggested setting: 1
Flap Extension Speed	Set to V_{FE} for 50% flaps per aircraft POH
Aural Alert Volume	Adjust volume to ensure tone is heard with and without headsets while the engine is running.
Max IAS Bug	Set to 185 knots
Min VS Bug	Set to -1600 FPM
Max VS Bug	Set to 1600 FPM

5.2.8 PFD IRU Calibration

See section 5.4 of this manual for IRU Calibration Instructions.

5.2.9 PFD Heading Verification and Adjustment

See section 5.6 of this manual for Heading Verification Instructions.

5.2.10 PFD Mag Heading Calibration

See section 5.5 of this manual for Magnetometer Calibration Instructions.

5.2.11 Single/Dual Mag/ADC Configuration

Vantage12 comes from the factory configured for single magnetometer/ADC installations. Switching between single and dual magnetometer/ADC configurations requires a DSF to be run. The DSF for each configuration is available on the Avidyne Dealer Portal. Download the DSF to a flash drive in the same way as a software update. Run the DSF from the Update tab of each display's Maintenance Mode.

5.3 MFD Configuration

The following subsections require the MFD to be maintenance and configuration mode. To access maintenance and configuration mode, see 5.2.1. Several pages of the MFD's maintenance mode functions are the same as the PFD's (Password Protection, Main System Config, DFC Config, IRU Calibration, Mag Calibration, Heading Verification, Single/Dual Mag/ADC Configuration). These pages should be configured or operated the same as the PFD.

5.3.1 MFD CAN Bus Configuration

The configuration page is used to configure the Vantage MFD CAN BUS ports. The CAN Bus configuration options are described in Table 5-9.

.

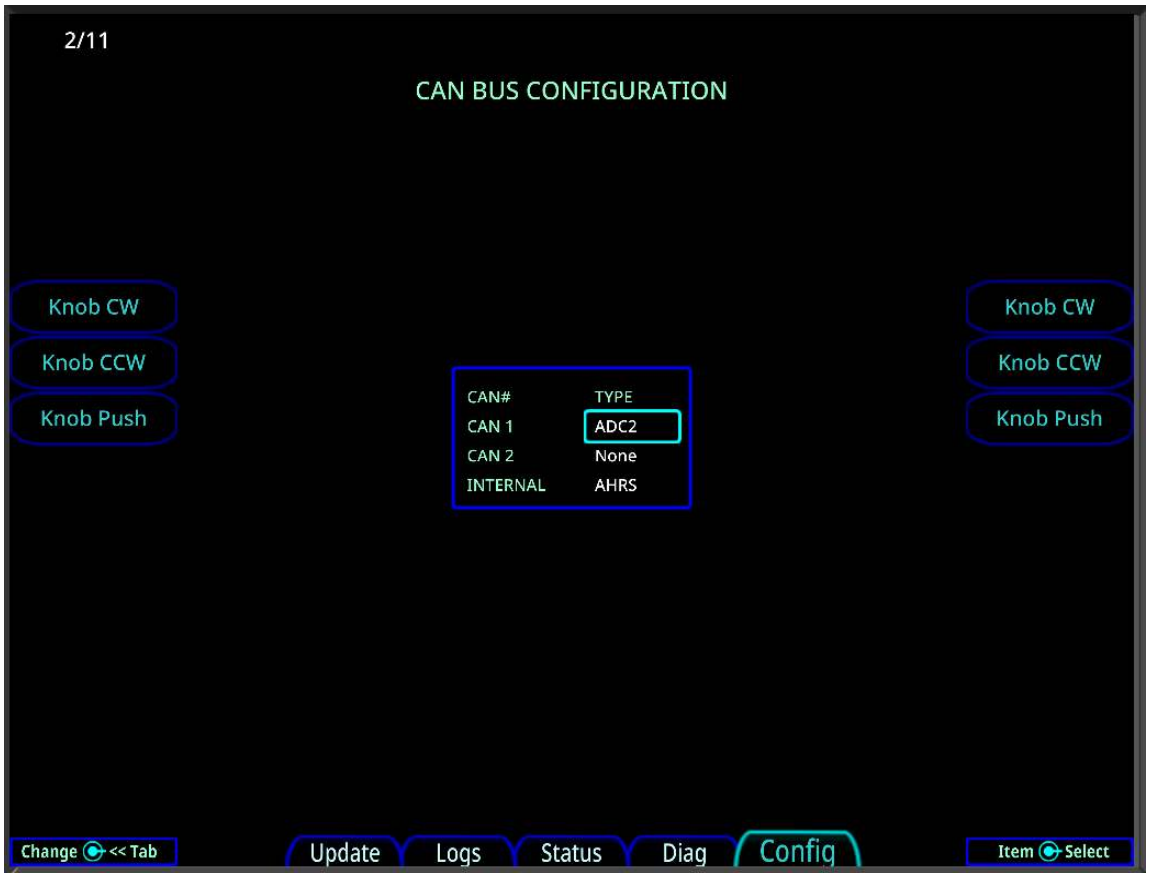


Figure 5-13: MFD CAN Bus Configuration Page

Table 5-9: MFD CAN Bus Configuration Settings

Selection	Description
CAN 1	For Dual ADC Installations: ADC2 For Single ADC Installations: NONE
CAN 2	For all V12 Installations: NONE
INTERNAL	For all V12 Installations: AHRS

5.3.2 MFD Main ARINC-429 Configuration

ARINC429 IN 1 should be configured to match the original Entegra MFD ARINC429 Port 3 configuration.

To configure the MFD main ARINC-429 configuration page, follow the steps below:

1. Navigate to the “CONFIG” Tab on the SYS Page.
2. Set the MFD ARINC429 Out ports to be configured “OFF”.

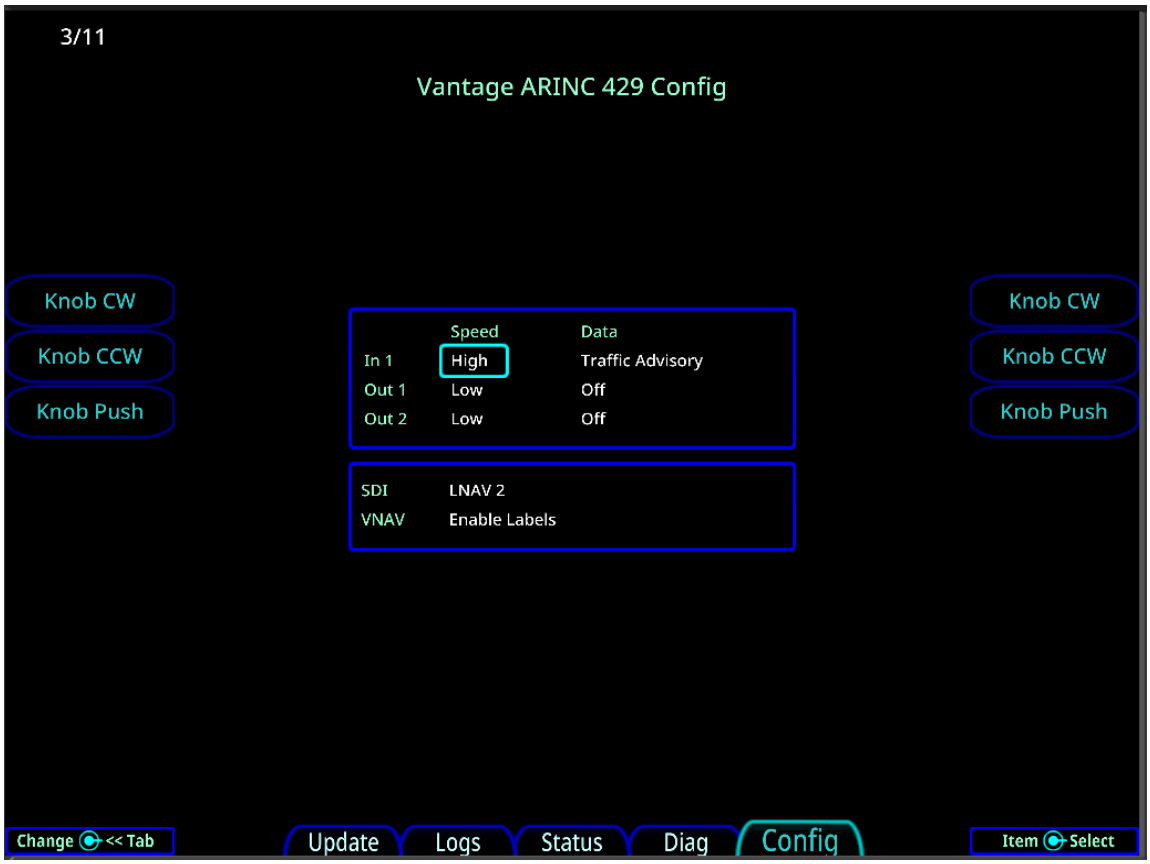


Figure 5-14: MFD ARINC 429 Configuration Page

Table 5-10: MFD ARINC 429 Line Speeds

Selection	Description
Low	Standard Low Speed ARINC429 (Nominally 12.5Kb per second)
High	High-Speed ARINC429 (Nominally 100Kb per second)

Table 5-11: MFD ARINC 429 Input Configuration Options

Selection	Description
Traffic Advisory	Traffic information from the following traffic advisory systems: Bendix/King KTA-870, KMH880 Garmin GTS 800/820/850 Garmin GDL 88 Avidyne TAS6XX (but RS-232 is preferred) Ryan 9900BX (but RS-232 is preferred) L3 Communications SKY497 SkyWatch L3 Communications SKY899 SkyWatch HP

	Accepts the following labels: 015 – Altitude Select Limits 016 – Mode S Control Panel Data 101- Selected Heading 130 – Intruder Range 131 – Intruder Altitude 132 – Intruder Bearing 203 - Pressure Altitude 204 - Baro Corrected Altitude 206 - Calibrated Airspeed 210 - True Airspeed 211 - Total Air Temp 212 - Barometric Rate (Vertical Speed) 213 - Static Air Temp 274 – Selected Sensitivity Level 306 - Joystick Latitude (When enabled on Main System Config Page) 307 - Joystick Longitude (When enabled on Main System Config Page) 320 - Mag Heading 350 – Maintenance/Fault Summary Word 357 – RTS/ETX
GDL88 Traffic	Garmin GDL 88 Traffic from the GDL 88/GTX 345 This ARINC 429 speed should be set to the high speed. Accepts the following labels: 015 – Altitude Select Limits 016 – Mode S Control Panel Data 130 – Intruder Range 131 – Intruder Altitude 132 – Intruder Bearing 203 – Pressure Altitude (Uncorrected) 353 – ADS-B Alerts and Status 357 – RTS/ETX
GDL88 Traffic w/TCAS	Garmin GDL 88/GTX345 with a Garmin GTS 800/820/825 or a L-3 SKY497/SKY 899 System Unsupported, reserved for future use
GDL88 Traffic w/TCAD	Garmin GDL 88/GTX345 with a Avidyne TAS6XX or Ryan 9900BX System This ARINC 429 speed should be set to the high speed. Accepts the following labels: 015 – Altitude Select Limits 016 – Mode S Control Panel Data 130 – Intruder Range 131 – Intruder Altitude 132 – Intruder Bearing 203 – Pressure Altitude (Uncorrected) 353 – ADS-B Alerts and Status 357 – RTS/ETX

NOTE:
Vantage displays can take ADS-B Traffic and Weather inputs over RS232. If the removed Entegra was configured for ADS-B input, it is recommended to follow the configuration settings listed in the applicable interface drawing found in Appendix D

5.3.3 MFD Main RS-232 Configuration

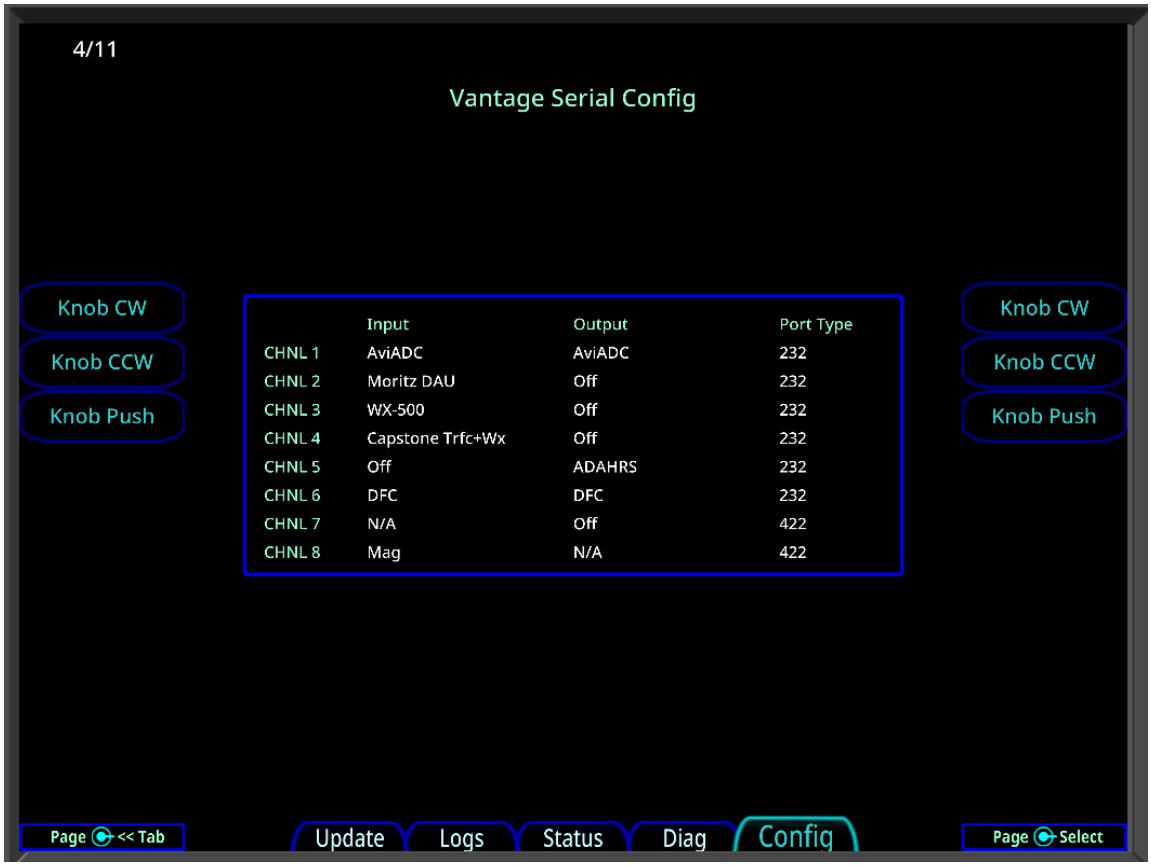


Figure 5-15: MFD Main RS232 Configuration Page

Table 5-12: MFD RS232 Configurations

MFD Serial Port		Configuration	Description
MFD Channel 1 Input	Port Type “RS232”	For all V12 Installations: “AviADC”	Provides a backup path to/from the MFD for ADC #1
MFD Channel 1 Output	Port Type “RS232”	For all V12 Installations: “AviADC”	Provides a backup path to/from the MFD for ADC #1
MFD Channel 2 Input	Port Type “RS232”	For all V12 Installations: “Moritz DAU”	Receives Engine Data from the Moritz DAU or SIU
MFD Channel 2 Output	Port Type “RS232”	For all V12 Installations: “OFF”	Not Used
MFD Channel 3 Input	Port Type “RS232”	For all V12 Installations: Set IAW Previously Installed Entegra MFD RS232 Port 3 Configurations	See Table 23 Below for optional configurations
MFD Channel 3 Output	Port Type “RS232”	For all V12 Installations: Set IAW Previously Installed Entegra MFD RS232 Port 3 Configurations	See Table 23 below for optional configurations
MFD Channel 4 Input	Port Type “RS232”	For all V12 Installations:	See Table 23 below for optional configurations

MFD Serial Port		Configuration	Description
		Set IAW Previously Installed Entegra MFD RS232 Port 4 Configurations	
MFD Channel 4 Output	Port Type “RS232”	For all V12 Installations: “OFF"	Not Used
MFD Channel 5 Input	Port Type “RS232”	For all V12 Installations: “OFF”	Not Used
MFD Channel 5 Output	Port Type “RS232”	For all V12 Installations: “ADAHRS”	Provides ADAHRS data to the DFC90 via the K1 Fail-safe Relay
MFD Channel 6 Input	Port Type “RS232”	For all V12 Installations: “DFC”	Receives FD, Command, and Mode Select data from the DFC90
MFD Channel 6 Output	Port Type “RS232”	For all V12 Installations: “DFC”	Provides Command/Control data to the DFC90 via the K1 Fail-safe Relay
MFD Channel 7 Input	Port Type “RS422”	For Single Magnetometer Installations: “OFF” For Dual Magnetometer Installations: “N/A”	Becomes the other channel of RS422 Out
MFD Channel 7 Output	Port Type “RS422”	For Single Magnetometer Installations: “OFF” For Dual Magnetometer Installations: “MAG”	Provides MFD Data to the #2 Magnetometer in dual magnetometer installations
MFD Channel 8 Input	Port Type “RS422”	For all V12 Installations: “MAG”	Provides HDG Data to the MFD from the #1 (Single Mag) or #2 (Dual Mag) Magnetometer
MFD Channel 8 Output	Port Type “RS422”	For all V12 Installations: “N/A”	Becomes the other channel of RS422 In

Table 5-13: MFD RS232 Optional Configurations

MFD - Optional RS232 Configurations	I/O	Description
WX500	IN and OUT	Serial lightning data information from the L3 Communications WX-500 Stormscope
TWX670	IN and OUT	Serial lightning data information from the Avidyne TWX670 in “Native” format
XMD076	IN and OUT	Serial weather data information from the Heads-up XMD-076
Capstone Wx	IN	Garmin GTX 345 and other 3rd party compatible ADS-B weather devices transmitting at 38400 baud.
Capstone Trfc	IN	Garmin GTX and other 3rd party compatible ADS-B traffic devices transmitting at 38400 baud.

MFD - Optional RS232 Configurations	I/O	Description
Capstone Trfc & Wx	IN	Garmin GTX 345 and other 3rd party compatible ADS-B traffic and weather devices transmitting at 38400 baud.
Capstone HS Wx	IN	Serial weather data information from any High-Speed Capstone compliant ADS-B device transmitting at 115200 baud.
Capstone HS Trfc	IN	Serial traffic data information from any High-Speed Capstone compliant ADS-B traffic device at 115200 baud.
Capstone HS Trfc & Wx	IN	Serial traffic and weather data information from any High-Speed Capstone compliant ADS-B traffic device at 115200 baud.
Ryan TCAD	IN and OUT	Traffic information from a Ryan 9900B, 9900BX, or TAS6XX Series System.

NOTE:
Vantage displays can take ADS-B Traffic and Weather inputs over RS232. If the removed Entegra was configured for ADS-B input, it is recommended to follow the configuration settings listed in the applicable interface drawing found in Appendix D.

5.4 IRU Calibration

The IRU Calibration must be performed post completion of the Vantage12 installation and any time a display has been removed and replaced. When required, IRU Calibration should always take place prior to Magnetometer Calibration. Following the IRU calibration, a new Mag calibration will be required.

NOTE:
The IRU Calibration procedures written below may require the removal of the glareshield to get accurate measurements. It is recommended to have the aircraft POH readily available as this will be needed for setting up TAS.

NOTE:
The Pitch and Roll Values under the artificial horizon will turn yellow while the ARS reboots. Do not continue to the next step until the values turn green, which means the ARS is active again

To perform the IRU Calibration, follow the steps below:

1. Apply ground power to the aircraft.

2. Boot the PFD and MFD into Maintenance / Configuration Mode.

See section 5.2.1 for instructions on getting the displays into Maintenance / Configuration Mode.

3. Select the “CONFIG” tab along the bottom of the screen.

4. Using the bottom right knob, scroll to the “IRU Calibration” page.

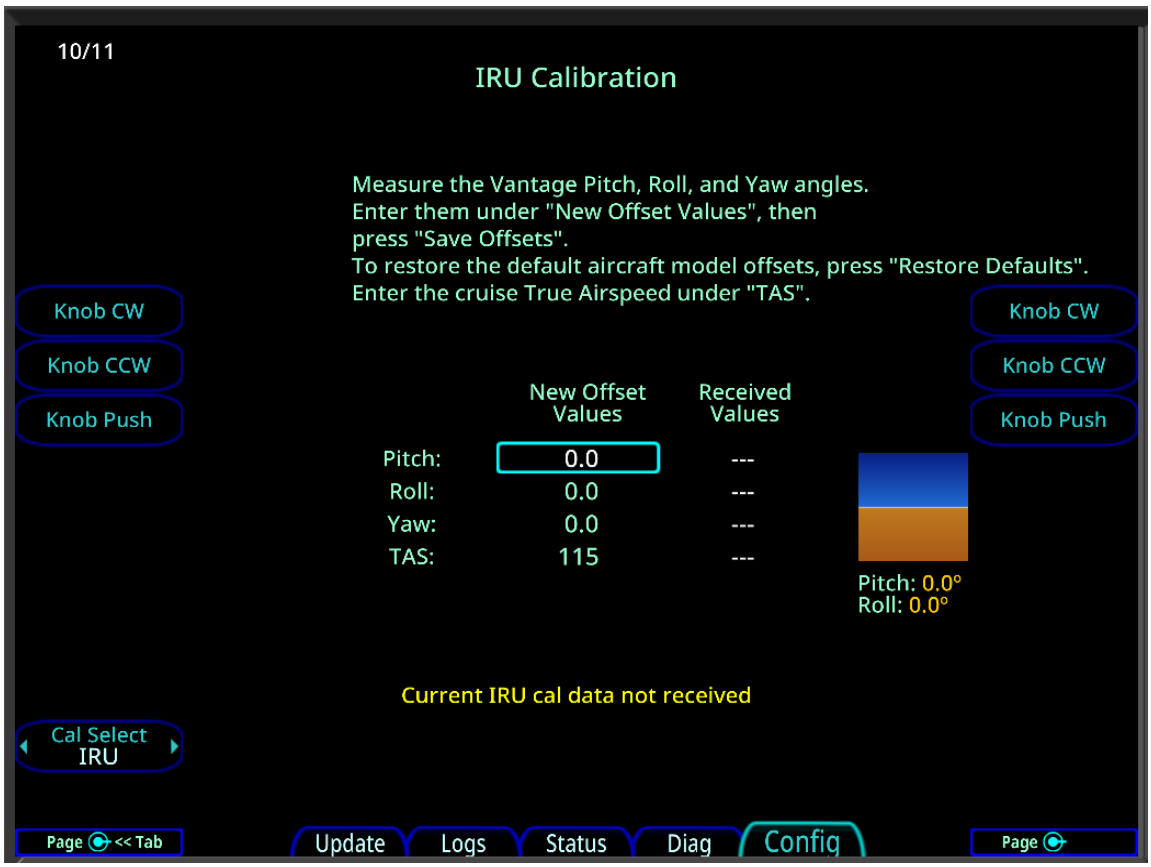


Figure 5-16: IRU Calibration Page

5. Level the aircraft in accordance with the Cirrus aircraft maintenance manual.

To perform the Display Pitch Calculation:

6. Using an inclinometer that has been “zeroed” at 90 degrees, place the inclinometer against the PFD bezel and record the measurement.

NOTE:
It is recommended to take this measurement multiple times until you get a consistent reading.

7. Using the bottom L/H Knob, adjust the “Pitch Offset” to match your measurement.

   Since the display will be mounted with a minor “nose down” attitude, the offset will be a negative number.

8. Press “Save Offsets”. Wait for the ARS soft reboot to finish (values turn green). Use the small “Blue over Brown” artificial horizon to validate the pitch by ensuring it reads 0.0 for pitch.

9. Repeat steps 6-8 above on the MFD.

To perform Display Roll Calculations:

10. On the PFD, push the bottom left knob to move the cursor down to “Roll Offset”.

11. Using an inclinometer that has been “zeroed” at 180 degrees (flat level surface), place the inclinometer along the top bezel of the PFD and record the measurement.

> **NOTE:**
> It is recommended to take this measurement multiple times until you get a consistent reading

12. Using the bottom L/H Knob, adjust the “Roll Offset” to match your measurement.

    If the display is tilted towards the left wing, the offset will be a negative number. If the display is tilted towards the right wing, the offset will be a positive number.

13. Press “Save Offsets”. Wait for the ARS soft reboot to finish (values turn green). Use the small “Blue over Brown” artificial horizon to validate the roll by ensuring it reads 0.0 for roll.

14. Repeat steps 10-13 on the MFD.

15. Display YAW Cal: On the PFD/MFD, push the bottom left knob to move the cursor down to “YAW Offset”.

16. On the PFD ONLY, set the YAW Offset value to 0.0.

17. Using a calibrated goniometer, place the goniometer body flush along the top of the PFD bezel. Fold out the swing arm of the goniometer until it is flush with the top of the bezel of the MFD and record the measurement.

> **NOTE:**
> It is recommended to take this measurement multiple times until you get a consistent reading.

18. Using the measurement as *x*, calculate 180 – *x* = *n*. *n* will be the value entered into the "YAW OFFSET" on the MFD ONLY. As the display is yawed to the right, this will need to be entered as a negative number.

19. On both displays select "Save Offsets."

20. Entering TAS is mandatory on both the PFD and the MFD. On both displays, using the lower left knob, select TAS. Refer to the aircraft POH and set the TAS value to match the POH speed at 75% Power at 6,000 feet.

21. On both displays select "Save Offsets."

22. Perform a hard power cycle on the entire system to save the new offsets.

5.5 Magnetometer Calibration

The following magnetometer calibration procedure below is applicable for both single magnetometer AND dual magnetometer installations.

Approximate duration:	20 minutes (assuming airplane is free to rotate 360° without magnetic disturbances)
Required equipment:	Installed PFD Installed MFD Installed magnetometer(s) Reference Compass: Resolution: 1°, Accuracy: +/- 1° Access to magnetometer mounting Brass Screwdriver appropriate for making magnetometer adjustments
Recommended personnel:	2 avionics technicians (one in the aircraft to push required bezel buttons, one on the wing to push the aircraft to new headings and read the marine compass)

NOTE:
Ensure the IRU install calibration procedure has been completed successfully prior to beginning the Magnetometer Calibration.

To perform the Magnetometer Calibration, follow the steps below:

1. Ensure the Aircraft doors are closed.

2. Ensure the Flaps are in the retracted position.

3. Ensure Engine is off.

4. Ensure Aircraft is in level flight attitude.

5. If using a reference compass continue to step 6. If performing calibration on a calibrated compass rose, skip to step 9.

6. Install the reference compass onto the top surface of the left tail surface.

7. Position lubber line to be parallel with longitudinal axis of the airplane.

8. Position reference compass to be approximately ½ chord length back from leading edge of tail and 43 inches outboard from fuselage.

9. Turn Battery and Avionics switches to on. (Consider attaching an external power cart until ready for step 17.)

NOTE:
PFD/MFD may already be on and aligned from IRU install. If so, skip to step 11. All other aircraft equipment shall be operating.

10. Boot the PFD and MFD into Maintenance / Configuration Mode. See section 5.2 and section 5.3 for instructions on getting the displays into Maintenance / Configuration Mode.

11. Once in Maintenance Mode, select the “Config” tab. Using the bottom right knob, scroll through configuration pages until you arrive at the “Magnetometer Calibration Page.

12. Press the soft key or corresponding line select key to toggle “Cal Select” from “IRU” to “Mag” (see reference image below).

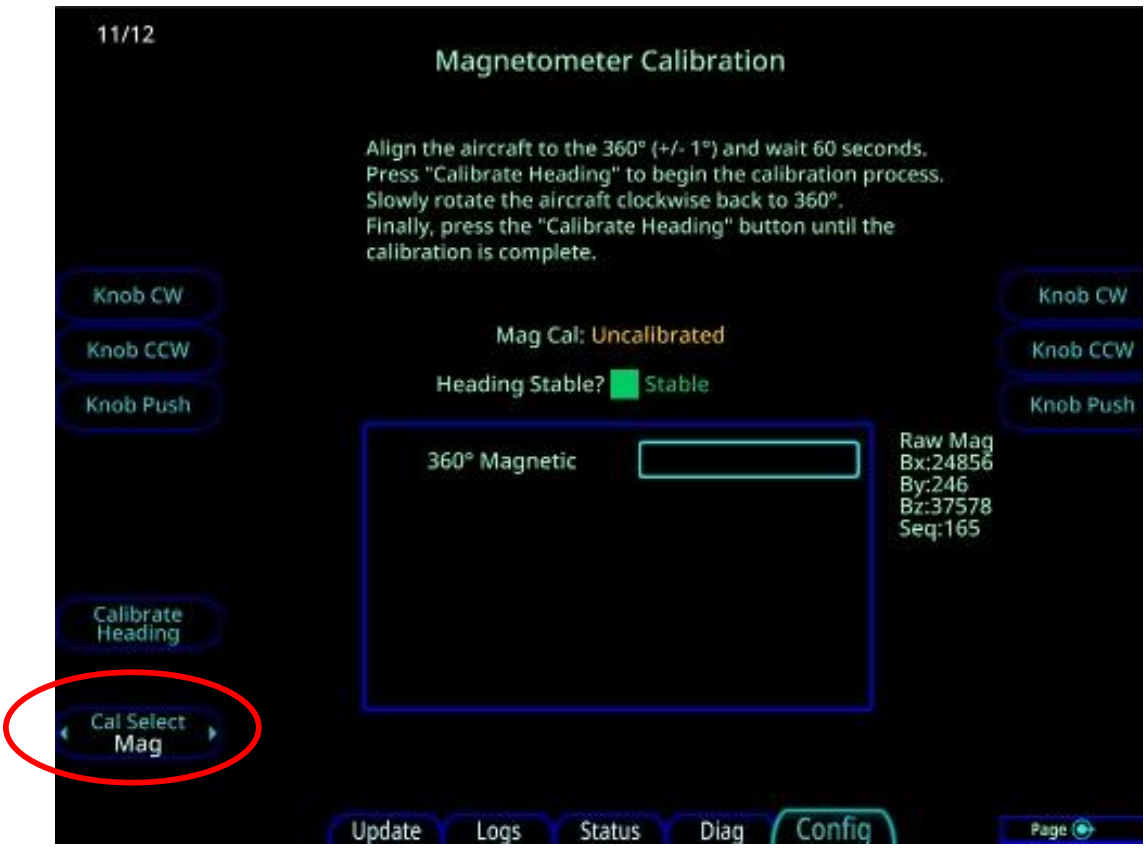


Figure 5-17: Cal Select Mag

13. Ensure both displays are receiving mag data by verifying the sequence number is reporting an increasing count between 1 and 256 (see reference image below)

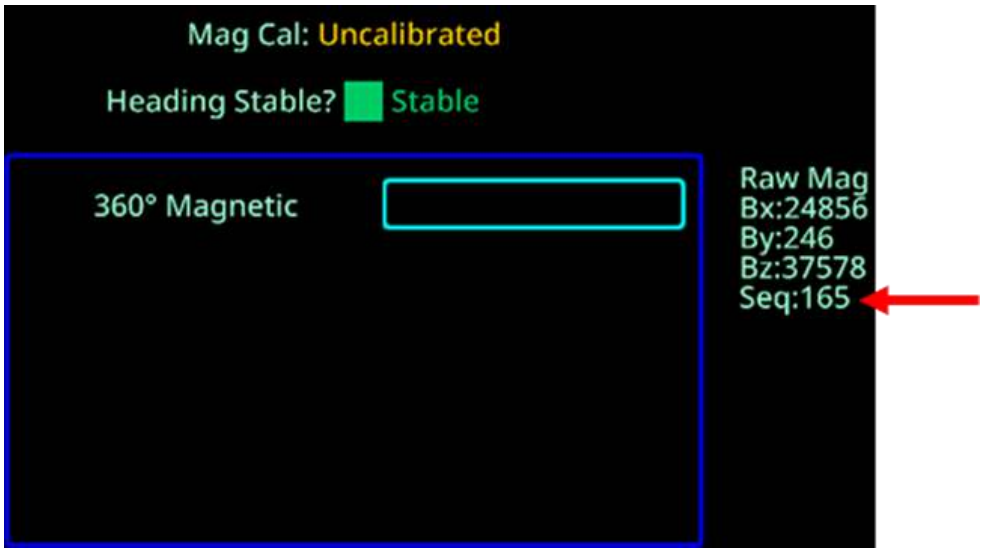


Figure 5-18: Magnetometer Calibration Page – Verify Sequence Number

14. Align the centerline of the airplane on magnetic north heading as indicated by the compass rose or tail mounted compass by pushing the aircraft as required. Ensure this is being done clear of magnetic disturbances in the pavement or immediate vicinity.

15. With the aircraft aligned at magnetic north, adjust the magnetometer(s) by loosening the mounting screws with a brass screwdriver. The magnetometer(s) should be adjusted until the **By value is 0 +/- 500.**

NOTE:
In single mag installs, both the PFD and MFD display the values from the original factory installed magnetometer.
In dual mag installations, the original factory magnetometer is displayed on the PFD and the 2nd newly added magnetometer is displayed on the MFD.

16. Once both displays are reading a **By value of 0 +/- 500**, tighten the mag mounting screws and give the reading 5-10 seconds to settle out. If the reading is consistent, reinstall the inspection panel(s).

17. Ensure persons are clear of the aircraft and start the engine.

NOTE:
In a DAU equipped aircraft, no engine indications will be available without rebooting into flight mode.
Rebooting into flight mode for engine start is permissible but will require rebooting into maintenance mode after engine idle has been established.

18. Align the centerline of the aircraft to magnetic North as indicated by the compass rose or the sight compass.

NOTE:
Alignment tolerance to Magnetic North 360° ± 1°

19. Wait for both displays to indicate Heading Stable (see Figure 5-19).

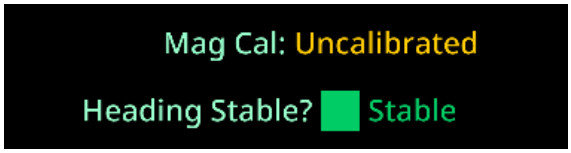


Figure 5-19: Mag Cal Heading Stable

20. Start the calibration process using the Calibrate Heading LSK or soft key

21. Using aircraft power, slowly rotate the aircraft clockwise stopping after full rotation of 360 ± 5°.

NOTE:
Transmit time for a full aircraft rotation should be between 1 and 3 minutes.

22. Complete the calibration using the appropriate LSK or soft key.

23. The Magnetometer Calibration field should switch from “Uncalibrated” to “Valid”.

NOTE:
After the calibration is completed, the AHRS will reboot automatically.

NOTE:
If “Valid” is not show in the Magnetometer Calibration field, all steps in this process must be repeated.

5.6 Compass Check

The following steps are to be carried out to validate the heading from the PFD and MFD.

Approximate duration:

20 minutes (assuming airplane is free to rotate 360° without magnetic disturbances)

Required equipment:

Installed PFD

Installed MFD

Installed magnetometer(s)

Calibrated compass rose or reference sight compass (Resolution: 1°, Accuracy: +/- 1°)

Recommended personnel:

2 avionics technicians (one in the aircraft to read heading, one on the wing to push the aircraft to new headings and/or read the sight compass)

Procedure:

1. Ensure the Aircraft doors are closed.
2. Ensure the Flaps are in the retracted position.
3. If using a reference compass, continue to step 4. If performing calibration on a calibrated compass rose, skip to step 7.
4. Two options are available for sight compass use. Select one and execute:
    a. Mount to tail
        i. Install the sight compass onto the top surface of the left tail surface.
        ii. Position lubber line to be parallel with longitudinal axis of the airplane.
        iii. Position reference compass to be approximately ½ chord length back from leading edge of tail and 43 inches outboard from fuselage.
    b. Handheld
        i. Compass technician stands approximately 20ft in front of aircraft and sights down the propeller spinner and vertical stabilizer to align the compass with the longitudinal axis of the aircraft.
        ii. Technician uses hand signals to indicate to technician in aircraft which direction to turn.
5. Turn Battery and Avionics switches on. Wait for displays to boot and AHRS to align, as indicated on screen.

6. If repositioning aircraft by hand, skip to step 7. If repositioning aircraft by taxiing under power, ensure persons are clear of the aircraft, start the engine, and establish idle.

7. Position aircraft on heading 360 using calibrated compass rose or sight compass.

8. Verify headings of PFD and MFD. Tolerance is ±2° between displays and ±4° from compass rose or sight compass. If any point is out of tolerance, stop this procedure and recalibrate the magnetomter(s) using the procedure listed in Section 5.5.

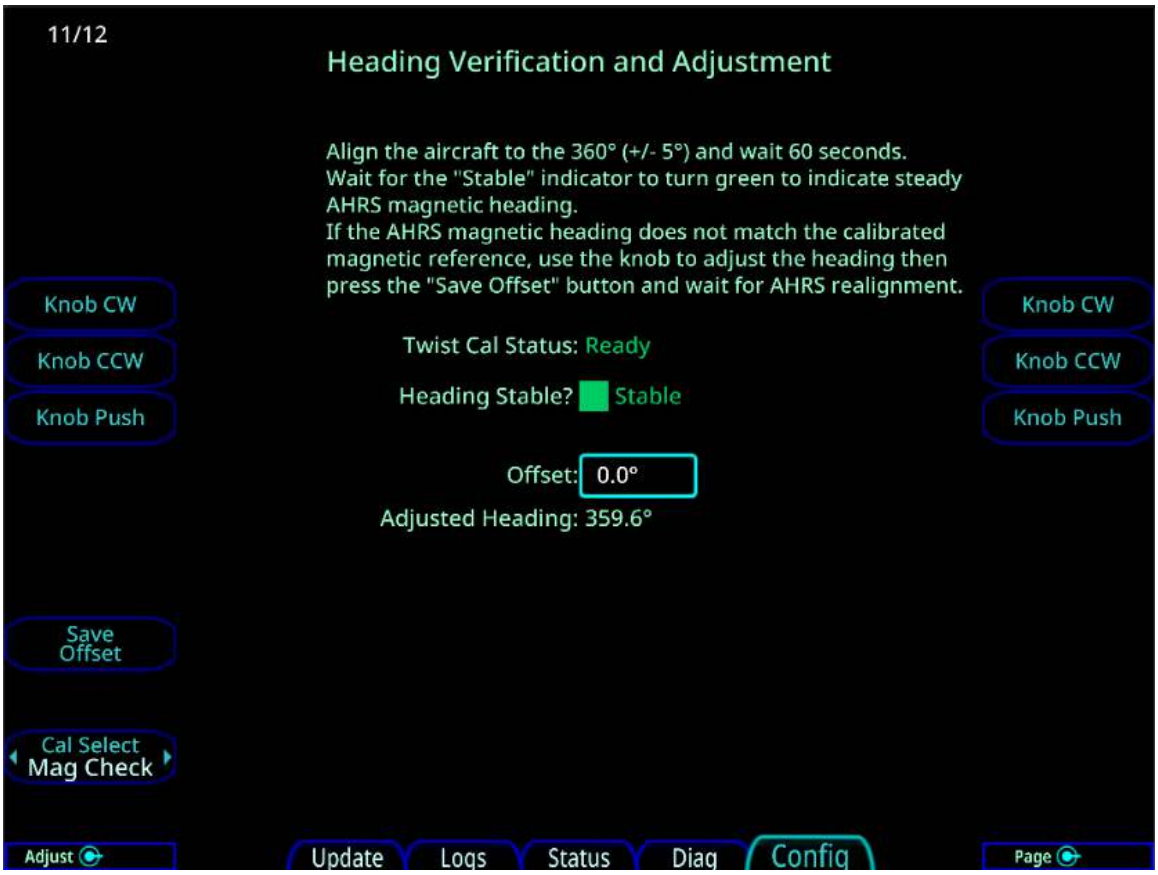
9. Repeat step 8, repositioning aircraft on each remaining cardinal heading (090, 180, 270).

10. If all headings are within tolerance, taxi and shutdown aircraft per normal operating procedures.

5.7 Heading Verification and Adjustment

The following steps are to be carried out to validate the heading and make necessary adjustments post Magnetometer calibration, upon completion of the AHRS reboot.

1. Use the CAL SELECT LSK to switch to “Mag Check” (see reference image below).



2. Align the centerline of the aircraft to Magnetic North (360° ± 5°) as indicated by the compass rose or the sight compass.

3. Wait for both displays to indicate Heading Stable.

4. Set the offset to 0.0.

5. If the adjusted heading value matches the reference compass within ±1.0°, no further adjustment is required.

6. If the adjusted heading value does not match the reference compass within ±1.0°, use the left knob to adjust the offset until the adjustment heading matches the reference compass.

7. Press the “Save Offset” button.

8. After the AHRS had finished automatically rebooting, confirm the adjusted heading value matches the reference compass within ±1.0°.

5.8 Air Data Computer Pitot-Static Check

Post installation the system will require a compliance check IAW 14 CFR 91.411 and 14 CFR 91.413 prior to return to service.

6 Ground Check

The checkout in the following subsections must be conducted prior to return to service. Ensure that all configurations and calibrations have been successfully accomplished, and the pitot static system has been successfully verified IAW 14 CFR 91.411 / 91.413 and Part 43 Appendix E.

NOTE:
The following pre-requisite exceptions apply:
14 CFR Part 43 Appendix E, paragraph (b)(1): iv (Friction) and vi (Baro Scale Error) are N/A due to the ADC interface to the display being digital.

Some steps may require knowledge of the connected IFDs. If needed, reference the latest IFD Installation Manual or IFD Pilot Guide.

6.1 Database Checkout

Verify the databases are up to date on both Vantage12 displays and both IFD.

6.2 PFD / MFD Air Data Tapes

To perform the PFD / MFD Air Data Tapes Ground Check, follow the steps below:

1. Verify the airspeed, altitude, and vertical speed tapes are valid and not displaying Red X on the PFD and the MFD.
2. Verify that the airspeed, altitude, and vertical speed bugs can be adjusted using the touch screen.
3. Adjust the barometric setting to match the current barometric pressure and verify that the altitude setting reflects the correct field elevation +/- 20ft.

6.2.1 Single Mag / Single ADC Installations

To perform single magnetometer and ADC installation ground check, follow the steps below:

1. Disconnect the circuit breaker for the Air Data Computer.
2. Verify that the Airspeed, Altitude, and vertical speed tapes go invalid (Red X).
3. Re-engage the ADC circuit breaker.
4. Verify that the Airspeed, Altitude, and Vertical Speed tapes return to a valid status.

6.2.2 Dual Mag / Dual ADC Installations

To perform dual magnetometer and ADC installation ground check, follow the steps below for PFD dual ADC installation:

1. On the MFD Sys page, ensure that Air Data is set to AUTO.
2. Disconnect the circuit breaker for the #1 ADC.
3. Verify that the PFD reverts to displaying valid ADC#2 data (will be called out by a yellow message on the top left portion of the display).
4. Re-engage the circuit breaker for the #1 ADC.
5. Verify that the PFD reverts to displaying valid (no yellow message) ADC Data from ADC#1.

Follow the steps below for the MFD dual ADC installation:

6. Disconnect the circuit breaker for the #2 ADC.

7. Verify that the MFD (PFD Mode) reverts to displaying valid ADC #1 Data (will be called out by a yellow message on the top left portion of the display).
8. Re-engage the circuit breaker for the #2 ADC.
9. Verify that the MFD (PFD Mode) reverts to displaying valid ADC #2 Data (no yellow message).

6.3 PFD / MFD OAT

Verify the OAT (Outside Air Temperature) readout is valid (not Red X) and accurate for the current ambient air temperature.

6.4 PFD ARINC 429 Output Check

To perform PFD ARINC 429 output check, follow the steps below:

1. Boot the Vantage System in normal flight mode.
2. On both IFD #1 and IFD #2 navigate to the Calculators page and verify that the altitude information is populated in GREEN on the Air Data Calculator.
3. Disconnect both of the PFD circuit breakers and verify the altitude information on the IFDs Air Data Calculator changes to WHITE.
4. Re-engage both PFD circuit breakers and verify the Air Data Calculator altitude changes back to GREEN.

6.5 PFD GPS Receiver Interface Check

To perform PFD GPS receiver interface check, follow the steps below:

1. Boot the Vantage System in normal flight mode.
2. Select the GPS #1 (as the Navigation Source) on the PFD CDI
3. Verify IFD #1 is powered ON, and IFD #2 is powered OFF
4. Once IFD #1 acquires position, review the active alerts on the PFD and MFD and verify there are no alerts relating to GPS #1
5. Verify that the PFD and MFD (PFD Mode) both display Synthetic Vision once the IFD acquires SBAS.
6. Create and activate a flight plan on the #1 IFD FMS page.
7. Verify that the entered flight plan is correctly transferred to the MFD (FPL Page), and that the correct active waypoint is displayed in the Nav Source selection box on the PFD.
8. Using the MFD FPL page, modify the flight plan.
9. Verify that the #1 IFD (FPL page) reflects the change that was made on the MFD.
10. Enter OBS mode on the #1 IFD. On the PFD, rotate the CRS knob and verify that the selected CRS changes accordingly on the PFD, the MFD, and the #1 IFD.
11. Power ON IFD #2, and power OFF IFD #1.
12. Repeat steps 1 through 11 swapping IFD #1 with IFD #2 and equally GPS #1 with GPS #2.

6.6 PFD NAV Receiver Interface Check

To perform PFD NAV receiver interface check, follow the steps below:

1. Tune IFD #1 to an ILS test frequency, and power OFF IFD #2

2. Select NAV 1 as the NAV Source on the PFD.
3. Using an ILS test set, generate a localizer and glideslope signal
4. Verify the localizer and glideslope displays by adjusting the test set (LOC: centered, half left, full left, half right, full right); (GS: centered, half up, full up, half down full down)
5. Tune IFD #1 to a VOR test frequency
6. Using a VOR test set, generate a 0 degree FROM radial
7. Adjust the CRS pointer to 0 degrees. Verify the deviation bar is centered and FROM is indicated
8. Repeat the VOR test above at 90, 180, and 270 degrees
9. Power ON IFD #2, and power OFF IFD #1. Repeat the test above for the #2 IFD.

6.7 MFD GPS Receiver Interface Check

To perform MFD GPS receiver interface check, follow the steps below:

1. Disconnect both PFD circuit breakers
2. Repeat all of section 6.5 above on the MFD (in PFD mode)
3. Re-engage both PFD circuit breakers

6.8 MFD NAV Receiver Interface Check

To perform MFD NAV receiver interface check, follow the steps below:

1. Disconnect both PFD circuit breakers
2. Repeat all of section 6.6 above on the MFD (in PFD Mode)

6.9 MFD TAS / TCAS Interface Check (if installed)

To perform MFD TAS / TCAS interface check, follow the steps below:

1. Boot the Vantage System into normal flight mode.
2. On the MFD, navigate to the MAP page.
3. Ensure that the upper left data block displays a "Traffic Thumbnail".
    a. If not, navigate to the SYS > Setup page and configure the upper left data block to display the Traffic Thumbnail.
4. Utilizing the Traffic Thumbnail, verify that the traffic device can be placed in "Operate" and "Standby" modes.
5. Verify that the traffic device can be commanded to perform Self-Test from the Traffic Thumbnail.
6. During self-test, verify that the traffic system runs and passes a self-test and that a test traffic pattern is displayed.

6.10 MFD ADS-B IN Interface Check (if installed)

NOTE:
The following steps can be performed as a ground check if the aircraft is within range of an FAA ADS-B ground station. If unable, this test should be performed in flight within FAA ADS-B ground station range.

To perform MFD ADS-B interface check, follow the steps below:

1. Boot the Vantage System into normal flight mode.
2. Ensure both IFDs have acquired SBAS GPS reception.
3. On the MFD, navigate to the MAP page.
4. Ensure that the upper left data block displays a "Traffic Thumbnail".
    a. If not, navigate to the SYS > Setup page and configure the upper left data block to display the Traffic Thumbnail.
5. Verify that the traffic thumbnail is not Red X'd, and that there are no errors present.
6. Observe targets of opportunity from other ADS-B equipped aircraft or an FAA ADS-B Ground Station.

6.11 MFD WX500/TWX670 Interface Check (if installed)

To perform MFD WX500/TWX670 interface check, follow the steps below:

1. Boot the Vantage System into normal flight mode.
2. On the MFD, navigate to the MAP page.
3. Utilizing the WX Overlay function, select "Onboard Lightning: Strike"
4. Verify there are no warnings or errors displayed.
5. Use a portable lightning tester or brushed electric drill in close proximity of the lightning sensor antenna, verify that lightning strikes are displayed in the general direction of the drill.
6. Alternatively, boot the MFD into Mx Mode and navigate to the Config page group. Toggle to the Stormscope test page and run self-test in accordance with the instructions on the screen.

6.12 MFD FIS-B Weather (ADS-B In) Interface Check (if installed)

NOTE:
The following steps can be performed as a ground check if the aircraft is within range of an FAA ADS-B ground station. If unable, this test should be performed in flight within FAA ADS-B ground station range.

To perform MFD FIS-B Weather interface check, follow the steps below:

1. Boot the Vantage System into normal flight mode.
2. Ensure both IFDs have acquired SBAS GPS Reception.
3. On the MFD, navigate to the SYS Status page.
4. Toggle to the Datalink Status Page.
5. Verify the Datalink Status page shows ADS-B WX as the source.
6. Verify weather data products are being received with valid time stamps.

6.13 MFD XMD-076 Weather Interface Check (if installed)

To perform MFD XMD-076 Weather interface check, follow the steps below:

1. Position the aircraft in a location where there is a clear view of the sky.
2. Boot the Vantage System into normal flight mode.
3. On the MFD, navigate to the SYS Status page.
4. Toggle to the Datalink Status Page.
5. Verify the Datalink Status page shows a current XM subscription level (Aviator, Aviator Pro, etc).
6. Verify the Datalink Status page also shows a valid radio ID.
7. Verify weather data products are being received with valid time stamps.

6.14 DFC90 Interface Check

To perform DFC90 interface check, follow the steps below:

1. Boot the Vantage System into normal flight mode.
2. Put the MFD into PFD Mode.
3. Wait until both displays show AP Ready.
4. FD Checkout
    a. Engage the Flight Director by selecting the FD button on the DFC90 control panel.
    b. Place the FD in HDG and ALT mode by selecting HDG and ALT on the DFC90 control panel.
    c. Move the altitude bug on the PFD above the current altitude and verify ALT the bug on the MFD (PFD mode) follows.
        i. Verify that the FD bars on both displays move UP
    d. Move the Altitude Bug on the MFD (PFD Mode) below the current altitude and verify the bug on the PFD follows
        i. Verify the FD bars on both displays move down
    e. Move the HDG bug on the PFD to the right of the current HDG and verify the HDG bug on the MFD (PFD Mode) follows
        i. Verify the FD Bars on both displays roll to the right
    f. Move the HDG Bug on the MFD (PFD Mode) to the left of the current HDG and verify the HDG bug on the PFD follows
        i. Verify the FD Bars on both displays roll to the left

6.14.1 AP Engaged Checkout

To perform AP engaged checkout, follow the steps below:

1. Engage the AP by pressing the AP button on the DFC90 Control Head
2. Place the DFC90 in HDG and ALT modes by selecting the HDG and ALT buttons on the DFC90 Control Head

3. Move the altitude bug on the PFD above the current altitude and verify ALT the bug on the MFD (PFD mode) follows
    a. Verify that the aircraft flight controls command a NOSE UP
4. Move the Altitude Bug on the MFD (PFD Mode) below the current altitude and verify the bug on the PFD follows
    a. Verify that the aircraft flight controls command a NOSE DOWN
5. Move the HDG bug on the PFD to the right of the current HDG and verify the HDG bug on the MFD (PFD Mode) follows
    a. Verify the aircraft flight controls command a ROLL to the right
6. Move the HDG Bug on the MFD (PFD Mode) to the left of the current HDG and verify the HDG bug on the PFD follows
    a. Verify that the aircraft flight controls command a ROLL to the left

6.14.2 AP Disconnect Checkout

To perform AP disconnect checkout, follow the steps below:

1. Engage the AP by pressing the AP button on the DFC90 Control Head
2. Verify that the AP can be disconnected via the following means
    a. Pilot control wheel AP Disconnect
    b. Pilot control wheel trim up
    c. Pilot control wheel trim down
    d. Co-Pilot control wheel AP Disconnect
    e. Co-Pilot control wheel trim up
    f. Co-Pilot control wheel trim down
    g. AP Button on DFC90 Control Head
3. AP Relay Failover Checkout
    a. Engage the AP by pressing the AP button on the DFC90 Control Head
    b. Place the DFC90 in HDG and ALT modes by selecting the HDG and ALT buttons on the DFC90 Control Head
    c. With the MFD in PFD mode, disconnect both circuit breakers for the PFD
    d. Verify that the AP stays engaged, and can be commanded via the MFD HDG and ALT bugs
    e. Re-engage both PFD circuit breakers
    f. Verify that the AP stays engaged
    g. Disconnect the MFD circuit breaker
    h. Verify the AP stays engaged, and can be commanded via the PFD HDG and ALT bugs
    i. Re-engage the MFD circuit breaker

6.15 MFD / PFD (SIU/DAU) Engine Checks

To perform both SIU/DAU Engine checks, follow the steps below:

1. Place the aircraft in a clear area appropriate for extended engine run-up
2. Follow the engine start-up procedures as defined in the aircraft POH
    a. Ensure engine oil pressure comes alive within 30 seconds of engine start
3. Allow the engine time to warm up to at least 100 degrees F in oil temp
4. Verify oil pressure is within normal operating range
5. Verify ALT 1 reads a positive load
6. Perform engine pre-takeoff run-up checklist IAW aircraft POH
7. Verify all engine readings are consistent with normal performance on both the Engine data block (PFD) and dedicated engine page (MFD)

7 Flight Check

After completing all ground checks and required calibrations perform the following flight checks to confirm proper operation.

NOTE:
Perform checks on both PFD and MFD.
Flight checks should be performed with AP engaged where appropriate.

Power On Check:

1. Verify both left and right ARS complete alignment upon power on.

2. Verify both left and right displays show appropriate air data upon power on.

During Engine Runup:

3. Verify the engine instrumentation is functional and within parameters on the MFD Engine page, as well as the engine data block on the PFD

During Takeoff:

4. Verify airspeed response and check for mode changes on TAS, transponder

During Flight:

5. Perform communications checks using several ground stations, verify correct operation.

6. Verify correct navigation reception by utilizing navigation tuning and PFD bearing pointers.

7. Enter and fly multi-leg flight plan with destination airport and verify correct navigation function.

8. Fly at least one of the following approach types and verify correct navigation function:

    a. GPS approach
    b. WAAS approach
    c. VOR approach
    d. LOC approach
    e. ILS approach

9. Utilize map, charts, weather overlay, and info functions verifying they are displayed correctly.

10. Verify mode changes after landing – transponder, TAS, map on airport diagram Utilize checklists

8 Software and Database Update Procedures

8.1 Data Updates

Periodic updates to navigation data, charts data, obstacle data, and terrain data (as needed) are made through the USB-C port on the front of each Vantage display. Updates must be performed in accordance with 14 CFR Part 43, Appendix A (c) and FAA AC 20-153() paragraph 11.

Table 8-1 below summarizes the databases update periods:

Table 8-1: Database Update Cycle

Database	Update Cycle	Comments & Source
Chart Data	28 days	Expiration watermark displayed after 14 days indefinitely until data updated (VFR Charts Avidyne, all others Jeppesen)
Nav Data	28 days	Airport, airway, navaid, airspace, and FMS data (Jeppesen)
Obstacle Data	56 days	Displayed on map and used for TA and FLTA functions (Jeppesen)
Terrain Data	As required	Displayed on map and used for TA and FLTA functions. The Vantage Displays are shipped from the factory with this database already loaded and updates are anticipated to be a rare occurrence.

Inspection of the databases and their expiration may be performed from flight mode. On the PFD, press and hold LSKs 1 and 3. A database status page will be presented. On the MFD, visit the SYS page, SYS tab.

To update the databases, use one of the formatted USB flash drives supplied by Avidyne. In the event one of those flash drives are not available, either call Avidyne for a replacement USB drive (a nominal fee will be charged) or purchase a replacement through other means. Most USB-C drives that can be formatted using FAT32 are acceptable.

Accessing maintenance and configuration mode on the Vantage Display can be accomplished in one of two ways. To access maintenance mode on the PFD see 5.2.1.

Once in Maintenance Mode:

1. Select the “Update” tab. Here you should see the available databases on the connected USB drive.

2. Use the lower RH knob (press like a button) to select the database you’d like to load. This can be verified by a green check mark next to the selected database. Alternatively, you can press the “Select ALL” line select key or soft key, which will place a check mark next to all the files listed on the USB drive.

3. Once the appropriate files have been selected, press “Proceed”. A progress bar will be displayed along the bottom of the screen to indicate progress

4. The databases must be loaded to both Vantage displays, and the cycles must match the databases loaded to both installed IFDs for the system to sync properly

5. When finished press the “Done” LSK, which will restart the IFD into flight mode. Remove the USB fob and perform a normal start up.

8.2 Data Logs Download

There is extensive data-logging that is automatically done on both Vantage displays. These data logs can be accessed post-flight and used for several purposes. These data logs can be retrieved via maintenance mode on the displays.

To access maintenance mode on the PFD or MFD see 5.2.1.

Once in maintenance mode, follow the steps below:

1. Once in maintenance mode, toggle to the “LOGS” tab. Here you should see the available logs that can be downloaded to the USB drive.

2. Use the lower RH knob (press like a button) to select the logs you’d like to download. This can be verified by a green check mark next to the selected database.

3. Alternatively, you can press the “Select ALL” line select key or soft key, which will place a check mark next to all the files listed.

4. Once the appropriate files have been selected, press “Proceed”. A progress bar will be displayed along the bottom of the screen to indicate progress.

5. When downloaded to the USB fob, the data logs will be saved in .csv files and .txt files. This can be imported into newer versions of Microsoft Excel into a table format. The data can then be plotted or analyzed by several 3rd party tools.

8.3 Software Update

The following procedures should be followed when performing optional or mandatory software updates to the Vantage System:

1. Any approved and released software for Vantage will be accompanied by a Service Bulletin. The software update procedures will be listed in the Service bulletin and should be followed precisely.

2. Acquire the software image and associated loading procedure from Avidyne.

3. Verify the software part number configuration before and after maintenance is performed on the airborne equipment using the loading procedure instructions.

4. It is the responsibility of maintenance personnel to ensure the identified part is recorded in the necessary maintenance logs.

5. It is the maintenance personnel's responsibility to ensure that the software part identification has been logged.

NOTE:
When new software is loaded into the unit, the correct software part number should be verified according to the instructions accompanying the software change before the unit is returned to service.

Changes to software part number, version, and/or operational characteristics should be reflected in the Operator's Manual, Aircraft Flight Manual, Aircraft Flight Manual Supplement, and/or any other appropriate document.

9 Periodic Maintenance

The Vantage12 System does not require any periodic or preventative maintenance. Maintenance on the Vantage12 System is on condition.

9.1 Equipment Calibration

Calibration of the IRU and Magnetometer will be required during initial installation, and if either display or magnetometer gets replaced in the field. IRU and Magnetometer calibrations may be required on an "as needed" basis, if any drifting of calibrated values is seen. Follow the instructions for IRU calibration in section 5.2.4, and the instructions for Magnetometer calibration in section 5.2.5.

NOTE:
Any time an IRU calibration is performed, it will be necessary to complete a new magnetometer calibration.

9.2 Cleaning

The front display and bezel may require cleaning periodically, reference Section 11.

10 Factory Service Policies and Procedures

10.1 Technical Support

Avidyne's website contains information that will assist the operator and installer with questions regarding their Avidyne Vantage12 System. Technical support questions may be submitted, via the following:

- Email: techsupport@avidyne.com
- Voice: 1-888-723-7592 Toll Free USA.
- Voice +1-321-751-8520 Option 3 Outside the USA
- Internet: www.Avidyne.com or dealers.avidyne.com
- Dealer Knowledge base: https://techsupport.avidyne.com/home/

Please include the part number, revision number, and serial number of the unit in all correspondence. For problem reporting, please provide as many details associated with the problem as possible.

An Avidyne Technical Support Representative will respond as soon as possible. Avidyne business hours are:

Monday through Friday: 8:00 AM to 5:00 PM Eastern Time

URGENT After-Hours AOG Technical Support is available via the following: AOG Support: 877-900-4AOG (4264)

10.2 General Service Procedures

Repairs to any component of the Vantage12 System are performed at the authorized Part 145 service center located at the Avidyne factory.

Prior to returning a unit for service, contact Avidyne at techsupport@avidyne.com and get an RMA number and return shipping instructions from Avidyne.

When calling or emailing for product-related help, please have the following information available:
1. Customer name and aircraft information
2. Component Part Number and Serial Number

11 Bezel and Display Cleaning

Should the Vantage12 screen become dirty due to fingerprints or dust, clean the screen using the following materials and methods:

- A clean, soft lint-free cloth such as 3M Ultra-Brite Cloth #2011 or similar.
- A cleaning solution composed of a 1:1 ratio of de-ionized water and isopropyl alcohol (IPA).

CAUTION:
Use caution, as it may be flammable. Methanol and most acidic solutions can be toxic or damaging to glass coatings if misused.
Always apply the cleaning solution directly on the cloth. Never spray cleaner directly on the screen.

Excessive or unnecessary cleaning should be avoided to prevent damage to the coated optical filter surfaces. Never allow excess amounts of cleaning agents to dry if they have formed into pools, streaks or droplets to help avoid spotting of the glass surface.

The use of any 3rd party screen protector, especially those that adhere directly to the Vantage12 display glass, is not endorsed by Avidyne due to the touch-screen nature of the display and may void the warranty for any display related issue.

12 STC Permission

12.1 Avidyne STC Permission Letter

Avidyne Corporation hereby grants to all National Aviation Authorities approved installers the use of data from STC ST02462BO to install the Avidyne Vantage12 System.

This also includes any international validations of the STC (e.g. EASA, ANAC, etc). Copies of the STC data are available on the Avidyne Dealer Website or upon request.

The latest data revisions are listed in Avidyne Master Document List, AVVAN-017. Installers must abide by the conditions and limitations stated in both the STC and in the Installation Manual to maintain compliance. The use of this data itself does not constitute installation approval.

Appendices

Appendix A Vantage12 PFD / MFD I/O Definition

A.1. Vantage12 PFD/MFD Rear Connector Layout

Vantage12 rear connectors shown in Figure A-1 from left to right:

- P1 – Mates to J1 of the PFD/MFD EZ Adapter
- USB 1 – Reserved for factory use
- USB 2 – Reserved for factory use
- J2 – Mates to P2 of the PFD/MFD EZ Adapter
- J3 – Mates to P3 of the PFD/MFD EZ Adapter

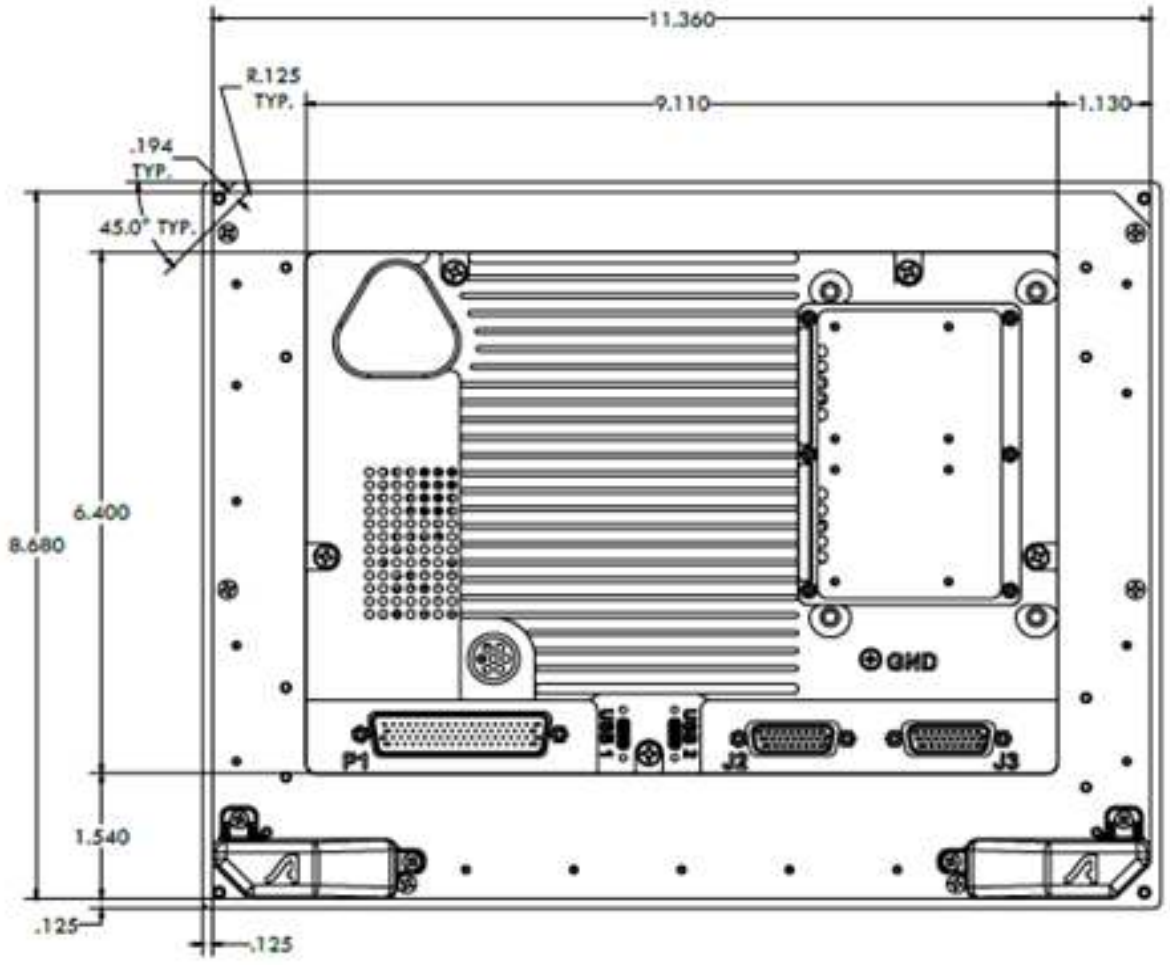


Figure A-1: Vantage12 Rear Connector Layout

A.2. Vantage12 PFD/MFD Pin Function List

A.2.1. P1 / J1 –PFD/MFD & EZ Adapter

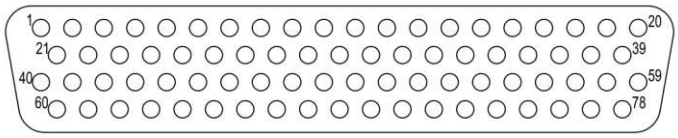


Figure A-2: Vantage12 PFD / MFD P1 & EZ Adapter J1 Connector Pinout

Table A-1: Vantage12 PFD P1 Connector Pin Function List

Vantage PFD P1	Function	Description
1	PWR A	Power Input A
2	PWR A	Power Input A
3	PWR B	Power Input B
4	Reserved	Reserved
5	485/232 CH1 TX	RS-232 CH1 TX
6	485/232 CH2 TX	RS-232 CH2 TX
7	485/232 CH3 TX	RS-232 CH3 TX
8	485/232 CH4 TX	RS-232 CH4 TX
9	485/232 CH5 TX	RS-232 CH5 TX
10	485/232 CH6 TX	RS-232 CH6 TX
11	485/232 CH7 TX	RS-232 CH7 TX
12	485/232 CH8 TX	RS-232 CH8 TX
13	ARINC 429 TX 1A	ARINC429 Out 1A
14	ARINC 429 TX 2A	ARINC429 Out 2A
15	Reserved	Reserved
16	Reserved	Reserved
17	Reserved	Reserved
18	Reserved	Reserved
19	ARINC 429 RX 1A	ARINC429 In 1A
20	Reserved	Reserved
21	PWR A	Power Input A
22	PWR B	Power Input B
23	PWR B	Power Input B
24	Reserved	Reserved
25	485/232 CH1 RX	RS-232 CH1 RX
26	485/232 CH2 RX	RS-232 CH2 RX
27	485/232 CH3 RX	RS-232 CH3 RX
28	485/232 CH4 RX	RS-232 CH4 RX
29	485/232 CH5 RX	RS-232 CH5 RX
30	485/232 CH6 RX	RS-232 CH6 RX
31	485/232 CH7 RX	RS-232 CH7 RX

32	485/232 CH8 RX	RS-232 CH8 RX
33	ARINC 429 TX 1B	ARINC 429 Out 1B
34	ARINC 429 TX 2B	ARINC 429 Out 2B
35	Reserved	Reserved
36	Reserved	Reserved
37	Reserved	Reserved
38	Reserved	Reserved
39	ARINC 429 RX 1B	ARINC429 In 1B
40	PWR GND	PWR A RTN
41	PWR GND	PWR A RTN
42	PWR GND	PWR B RTN
43	MAG GND	MAG PWR RTN
44	CH ID 0	CHASSIS ID 0
45	GND	
46	GND	
47	GND	
48	GND	
49	GND	
50	GND	
51	GND	
52	GND	
53	GND	
54	GND	
55	GND	
56	GND	
57	GND	
58	GND	
59	GND	
60	PWR GND	PWR A RTN
61	PWR GND	PWR B RTN
62	PWR GND	PWR B RTN
63	24V MAG PWR	MAG PWR Out
64	Reserved	Reserved
65	Reserved	Reserved
66	Reserved	Reserved
67	Reserved	Reserved
68	Reserved	Reserved
69	DISCRETE OUT 1	Discrete Out (Open Collector)
70	DISCRETE OUT 2	Discrete Out (Open Collector)
71	DISCRETE IN 1	Discrete Input
72	DISCRETE IN 2	Discrete Input
73	Reserved	Reserved
74	Reserved	Reserved

75	DIM BUS IN 1 +	Analog Input (Differential)
76	DIM BUS IN 1 -	Analog Input (Differential)
77	Reserved	Reserved
78	Reserved	Reserved

A.2.2. J2 – Connects to PFD/MFD EZ Adapter

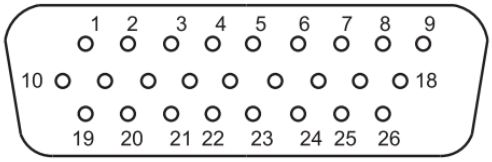


Figure A-3: Vantage12 PFD J2 Connector Pinout

Table A-2: Vantage12 PFD J2 Connector Pin Function List

PFD J2	Function	Description
1	Ethernet CH2 TD3+	Ethernet Ch2
2	Ethernet CH2 TD2+	Ethernet Ch2
3	Ethernet CH2 TD1+	Ethernet Ch2
4	Ethernet CH2 TD0+	Ethernet Ch2
5	Shield GND	Shield GND
6	Ethernet CH1 TD3+	Ethernet Ch1
7	Ethernet CH1 TD2+	Ethernet Ch1
8	Ethernet CH1 TD1+	Ethernet Ch1
9	Ethernet CH1 TD0+	Ethernet Ch1
10	Ethernet CH2 TD3-	Ethernet Ch2
11	Ethernet CH2 TD2-	Ethernet Ch2
12	Ethernet CH2 TD1-	Ethernet Ch2
13	Ethernet CH2 TD0-	Ethernet Ch2
14	CAN CH 2 TERM	CAN BUS Channel 2 Termination
15	Ethernet CH1 TD3-	Ethernet Ch1
16	Ethernet CH1 TD2-	Ethernet Ch1
17	Ethernet CH1 TD1-	Ethernet Ch1
18	Ethernet CH1 TD0-	Ethernet Ch1
19	Reserved	Reserved
20	Reserved	Reserved
21	Reserved	Reserved
22	CAN CH2 -	CAN BUS Channel 2 LO
23	CAN CH2 +	CAN BUS Channel 2 HI
24	CAN CH1 TERM	CAN BUS Channel 1 Termination
25	CAN CH1 -	CAN BUS Channel 1 LO
26	CAN CH1 +	CAN BUS Channel 1 HI

A.2.3. J3 – Connects to PFD/MFD EZ Adapter – not used in Cirrus Vantage12

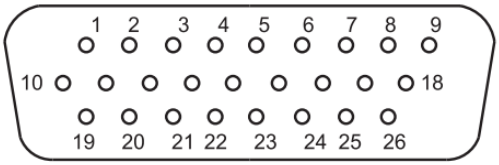


Figure A-4: Vantage12 PFD J3 Connector Pinout

Not used in Cirrus Vantage12.

A.3. Vantage12 PFD EZ Adapter P/N: 310-00401-000

The Vantage12 PFD EZ Adapter is designed to carry through the original aircraft factory wiring to the Vantage12 display without the need to completely rewire the aircraft or design an adapter harness.

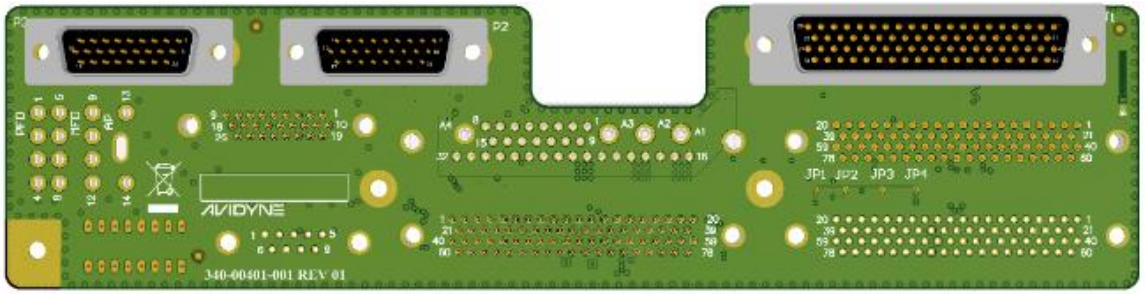


Figure A-5: Vantage12 PFD EZ Adapter Bottom View

Figure A-6: Vantage12 PFD EZ Adapter Top View

A.3.1. J1 – Connects to PFD P1 Connector

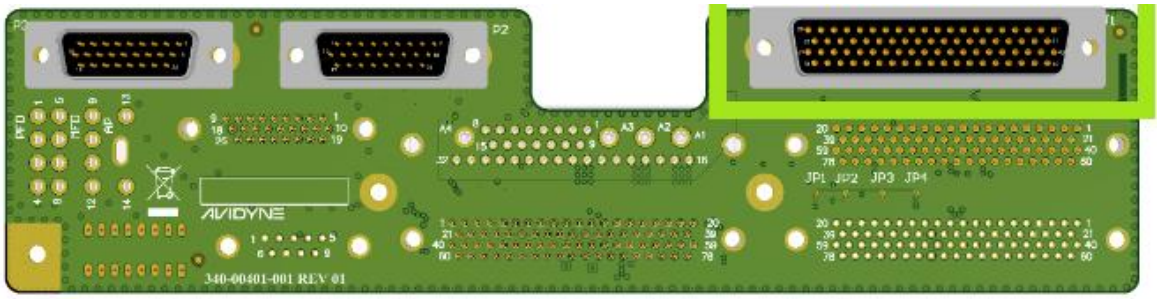


Figure A-7: Vantage12 PFD EZ Adapter J1 Location and Pinout

Table A-3: Vantage12 PFD EZ Adapter J1 Pin Function List

PFD EZ Adapter J1	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
1	J730 Pin A1	PWR A	PFD PWR Main Bus
2	J730 Pin A1	PWR A	PFD PWR Main Bus
3	J730 Pin A3	PWR B	PFD PWR Ess Bus
4		Reserved	
5	P5 Pin 19	485/232 CH1 TX	#2 ADC RS232
6		485/232 CH2 TX	
7		485/232 CH3 TX	
8		485/232 CH4 TX	
9	K1 Pin 5	485/232 CH5 TX	DFC90 ADAHRS RS232
10	K1 Pin 6	485/232 CH6 TX	DFC90 RS232
11	J730 Pin 6	RS422 TX7+	#1 Magnetometer RS422
12	J730 Pin 5, Dip SW 3	RS422 RX8+	#1 Magnetometer RS422
13	J732 Pin 22	ARINC 429 TX 1A	IFDs ARINC 429
14	P5 Pin 77	ARINC 429 TX 2A	Unused on PFD
15		Reserved	
16		Reserved	
17		Reserved	
18		Reserved	
19	P528 Pin 7	ARINC 429 RX 1A	Unused on PFD
20		Reserved	
21	J730 Pin A1	PWR A	PFD PWR Main Bus
22	J730 Pin A3	PWR B	PFD PWR Ess Bus
23	J730 Pin A3	PWR B	PFD PWR Ess Bus
24		Reserved	
25	P5 Pin 20	485/232 CH1 RX	#2 ADC RS232
26	P599 Pin 25	485/232 CH2 RX	DAU RS232
27	P528 Pin 50	485/232 CH3 RX	Unused on PFD
28	P528 Pin 70	485/232 CH4 RX	Unused on PFD
29	Unused on PFD	485/232 CH5 RX	Unused on PFD

PFD EZ Adapter J1	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
30	J732 Pin 50, P5 Pin 51	485/232 CH6 RX	From DFC90 RS232
31	J730 Pin 14	RS422 TX7-	To #1 (Existing) Magnetometer RS422
32	J730 Pin 13 Dip SW 3	RS422 RX8-	To #1 (Existing) Magnetometer RS422
33	J732 Pin 21	ARINC 429 TX 1B	IFDs ARINC 429
34	P5 Pin 78	0ARINC 429 TX 2B	Unused on PFD
35		Reserved	
36		Reserved	
37		Reserved	
38		Reserved	
39	P528 Pin 28	ARINC 429 RX 1B	Unused on PFD
40	J730 A2	PWR GND	Existing PWR GND
41	J730 A2	PWR GND	Existing PWR GND
42	J730 A4	PWR GND	Existing PWR GND
43	J730 Pin 32, SW1	MAG GND	To #1 (Existing) Magnetometer GND
44	P5 Pin 50	CH ID 0	Unused on PFD
45		GND	
46		GND	
47		GND	
48		GND	
49		GND	
50		GND	
51		GND	
52		GND	
53		GND	
54		GND	
55		GND	
56		GND	
57		GND	
58		GND	
59		GND	
60	J730 A2	PWR GND	Existing PWR GND
61	J730 A4	PWR GND	Existing PWR GND
62	J730 A4	PWR GND	Existing PWR GND
63	J730 Pin 32, SW2	24V MAG PWR	To #1 (Existing) Magnetometer PWR
64		Reserved	
65		Reserved	
66		Reserved	
67		Reserved	
68		Reserved	

PFD EZ Adapter J1	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
69	P528 Pin 7, K1 Pin 14	DISCRETE OUT 1	AP Fail Safe Relay (Keep Alive)
70	P528 Pin 47	DISCRETE OUT 2	Unused on PFD
71	Unused on PFD	DISCRETE IN 1	Unused on PFD
72	Unused on PFD	DISCRETE IN 2	Unused on PFD
73		Reserved	
74		Reserved	
75	J730 Pin 15	DIM BUS IN 1 +	Existing DimBus Input
76	J730 A2	DIM BUS IN 1 -	Existing PWR GND
77		Reserved	
78		Reserved	

A.3.2. P2 – Connects to PFD J2 Connector

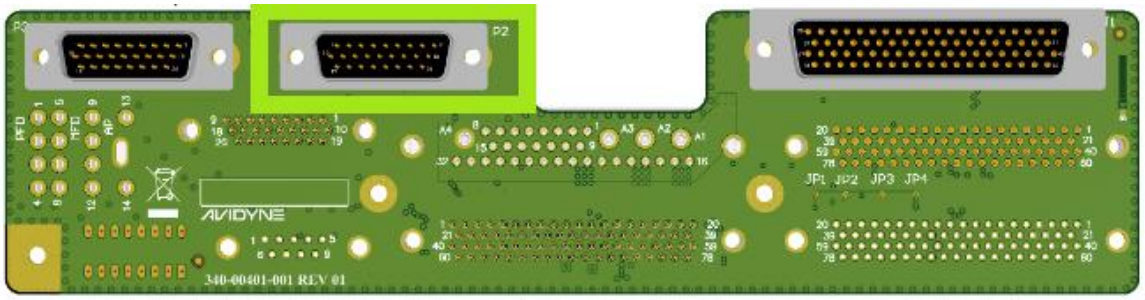


Figure A-8: Vantage12 PFD EZ Adapter P2 Location and Pinout

Table A-4: Vantage12 PFD EZ Adapter P2 Connector Pin Function List

PFD P2	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
1		Ethernet CH2 TD3+	
2		Ethernet CH2 TD2+	
3	P5 Pin 46	Ethernet CH2 TD1+	Adapter Harness to IFD#1
4	P5 Pin 45	Ethernet CH2 TD0+	Adapter Harness to IFD#1
5		Shield GND	
6		Ethernet CH1 TD3+	
7		Ethernet CH1 TD2+	
8	P5 Pin 3	Ethernet CH1 TD1+	Adapter Harness to MFD
9	P5 Pin 4	Ethernet CH1 TD0+	Adapter Harness to MFD
10		Ethernet CH2 TD3-	
11		Ethernet CH2 TD2-	
12	P5 Pin 66	Ethernet CH2 TD1-	Adapter Harness to IFD#1
13	P5 Pin 65	Ethernet CH2 TD0-	Adapter Harness to IFD#1
14	P5 Pin 6	CAN CH 2 TERM	Unused in Vantage12 for Cirrus
15		Ethernet CH1 TD3-	
16		Ethernet CH1 TD2-	
17	P5 Pin 23	Ethernet CH1 TD1-	Adapter Harness to MFD

PFD P2	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
18	P5 Pin 24	Ethernet CH1 TD0-	Adapter Harness to MFD
19		Reserved	
20		Reserved	
21		Reserved	
22	P5 Pin 6	CAN CH2 -	Unused in Vantage12 for Cirrus
23	P5 Pin 7	CAN CH2 +	Unused in Vantage12 for Cirrus
24	P2 Pin 25, P5 Pin 9	CAN CH1 TERM	Can Bus Termination for ADC #1
25	P2 Pin 24, P5 Pin 9	CAN CH1 -	CAN Bus Lo to ADC #1
26	P5 Pin 10	CAN CH1 +	Can Bus Hi to ADC #1

A.3.3. P3 – Connects to PFD J3 Connector

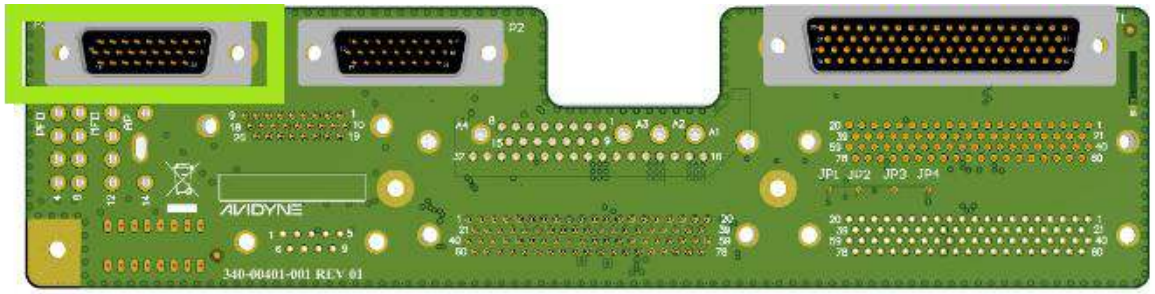


Figure A-9: Vantage12 PFD EZ Adapter P3 Connector Location and Pinout – not used

A.3.4. P5 – Connects to EZ Adapter Harness

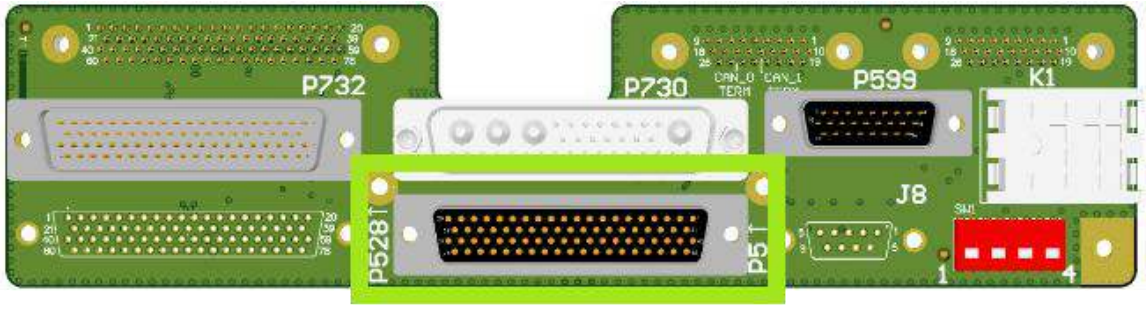


Figure A-10: Vantage12 PFD EZ Adapter P5 Connector Location and Pinout

Table A-5: Vantage12 PFD EZ Adapter P5 Connector Pin Function List

PFD P5	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
1	N/A	Reserved	Not used
2	N/A	Reserved	Not used
3	P2 Pin 8	Ethernet CH1 TD1+	Adapter Harness to MFD
4	P2 Pin 9	Ethernet CH1 TD0+	Adapter Harness to MFD

PFD P5	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
5	GND	Shield GND	HSBF Shield
6	N/A	Reserved	Not used
7	N/A	Reserved	Not used
8	N/A	Reserved	Not used
9	P2 Pin 24, P2 Pin 25	CAN Bus CH1 L	CAN Bus Channel 1 Lo to ADC #1
10	P2 Pin 26	CAN Bus CH1 H	CAN Bus Channel 1 Hi to ADC #1
11	Shield GND	CAN Bus Shield GND	Internal CAN Bus Shield
12	SW 2 Input	PWR w/SW2 Closed	SW1 Closed = Mag 1 PWR carryover from MFD SW 1 Open = Signal Not Used
13	SW 3 Output	Mag #1 RS422 TX+ w/SW3 Closed	SW3 Closed = Mag 1 RS422 TX+ carryover to MFD SW 3 Open = Signal Not Used
14	Shield GND	RS422 Shield GND	Internal Shield GND for Mag Data Cross-over
15	N/A	Reserved	Not used in Vantage12 for Cirrus
16	N/A	Reserved	Not used
17	N/A	Reserved	Not used
18	Shield GND	RS232 Shield GND	Internal Shield GND
19	J1 Pin 5	RS232 TX1	RS232 TX1 To ADC #2
20	J1 Pin 25	RS232 RX1	RS232 RX1 From ADC #2
21	N/A	Reserved	Not used
22	N/A	Reserved	Not used
23	P2 Pin 17	HSBF Channel 1 TD1-	HSBF Channel 1 to MFD
24	P2 Pin 18	HSBF Channel 1 TD0-	HSBF Channel 1 to MFD
25	N/A	Reserved	Not used
26	J730 A2	PWR GND	ADC#2 PWR GND
27	N/A	Reserved	Not used
28	J730 A2	PWR GND	ADC#1 PWR GND
29	N/A	Reserved	Not used
30	N/A	Reserved	Not used
31	N/A	Reserved	Not used
32	SW 1 Input	PWR GND w/SW1 Closed	SW1 Closed = Mag 1 GND carryover from MFD SW 1 Open = Signal Not Used
33	SW 3 Output	Mag #1 RS422 TX- w/SW3 Closed	SW3 Closed = Mag 1 RS422 TX- carryover to MFD SW 3 Open = Signal Not Used
34	N/A	Reserved	Not used
35	N/A	Reserved	Not used
36	N/A	Reserved	Not used
37	N/A	Reserved	Not used
38	N/A	Reserved	Not used
39	N/A	Reserved	Not used

PFD P5	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
40	N/A	Reserved	Not used
41	N/A	Reserved	Not used
42	N/A	Reserved	Not used
43	N/A	Reserved	Not used
44	Shield GND	HSBF Shield GND	Internal Shield Connection
45	P2 Pin 4	HSBF Channel 2 TD0+	HSBF to IFD #1
46	P2 Pin 3	HSBF Channel 2 TD1+	HSBF to IFD #1
47	N/A	Reserved	Not used
48	N/A	Reserved	Not used
49	N/A	Reserved	Not used
50	N/A	Reserved	Not used
51	J732 Pin 50, J1 Pin 30	RS232 From DFC	Mode, Selection, and Bug CMND from DFC90 to both PFD and MFD
52	K1 Pin 1	RS232 ADAHRS To DFC	ADAHRS Data from MFD to AP Fail Safe Relay
53	K1 Pin 2	RS232 To DFC90	DFC90 CMND Data from MFD to AP Fail Safe Relay
54	N/A	Reserved	Not used
55	N/A	Reserved	Not used
56	N/A	Reserved	Not used
57	N/A	Reserved	Not used
58	N/A	Reserved	Not used
59	N/A	Reserved	Not used
60	N/A	Reserved	Not used
61	N/A	Reserved	Not used
62	N/A	Reserved	Not used
63	N/A	Reserved	Not used
64	N/A	Reserved	Not used
65	P2 Pin 13	HSBF Channel 2 TD0-	HSBF to IFD #1
66	P2 Pin 12	HSBF Channel 2 TD1-	HSBF to IFD #1
67	N/A	Reserved	Not used
68	N/A	Reserved	Not used
69	N/A	Reserved	Not used
70	N/A	Reserved	Not used
71	N/A	Reserved	Not used
72	N/A	Reserved	Not used
73	N/A	Reserved	Not used
74	N/A	Reserved	Not used
75	N/A	Reserved	Not used
76	N/A	Reserved	Not used
77	N/A	Reserved	Not used
78	N/A	Reserved	Not used

A.3.5. P730 – Connects to Existing Aircraft Wiring Harness J730

Figure A-11: Vantage12 PFD EZ Adapter P730 Connector Location and Pinout

Table A-6: Vantage12 PFD EZ Adapter P730 Connector Pin Function List

P730	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
A1	J1 Pin 1 J1 Pin 2 J1 Pin 21 K1 Pin 13	PFD PWR	PFD Power Main Bus AP Fail Safe Relay
A2	J1 Pin 40 J1 Pin 41 J1 Pin 60 J1 Pin 76 P5 Pin 28 P5 Pin 26	PFD PWR GND	PFD PWR GND ADC #1 PWR GND ADC #2 PWR GND
A3	J1 Pin 3 J1 Pin 22 J1 Pin 23	PFD PWR	PFD Power Essential Bus
A4	J1 Pin 42 J1 Pin 61 J1 Pin 62	PFD PWR GND	PFD PWR GND
5	J1 Pin 12 SW3 – P5 Pin 13	RS422 RX8+	RS422+ From #1 Magnetometer
6	J1 Pin 11	RS422 TX7+	RS422+ To #1 Mag
7	N/A	Reserved	Not used
8	N/A	Reserved	Not used
9	N/A	Reserved	Not used
10	N/A	Reserved	Not used
11	N/A	Reserved	Not used
12	N/A	Reserved	Not used
13	J1 Pin 32 SW3 – P5 Pin 33	RS422 RX8-	RS422- From #1 Magnetometer
14	J1 Pin 31	RS422 TX7-	RS422- To #1 Mag
15	J1 Pin 75	Dim Bus PWR	Power Input from existing aircraft DimBus
16	N/A	Reserved	Not used
17	N/A	Reserved	Not used
18	N/A	Reserved	Not used
19	N/A	Reserved	Not used
20	N/A	Reserved	Not used
21	N/A	Reserved	Not used

P730	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
22	N/A	Reserved	Not used
23	N/A	Reserved	Not used
24	N/A	Reserved	Not used
25	N/A	Reserved	Not used
26	N/A	Reserved	Not used
27	N/A	Reserved	Not used
28	N/A	Reserved	Not used
29	N/A	Reserved	Not used
30	N/A	Reserved	Not used
31	J1 Pin 63 SW1 – P5 Pin 32	Mag/OAT PWR	#1 Mag PWR Out
32	J1 Pin 43 SW2 – P5 Pin 12	Mag/OAT GND	#1 Mag GND
33	N/A	Reserved	Not used
34	N/A	Reserved	Not used
35	N/A	Reserved	Not used

A.3.6. J732 – DFC90 and ARINC 429 Interface

Figure A-12: Vantage12 PFD EZ Adapter J732 Connector Location and Pinout

Table A-7: Vantage12 PFD EZ Adapter J732 Connector Pin Function List

J732	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
1	N/A	Reserved	Not used
2	N/A	Reserved	Not used
3	N/A	Reserved	Not used
4	N/A	Reserved	Not used
5	N/A	Reserved	Not used
6	N/A	Reserved	Not used
7	N/A	Reserved	Not used
8	N/A	Reserved	Not used
9	N/A	Reserved	Not used
10	N/A	Reserved	Not used
11	K1 Pin 9	ADAHRS RS232	ADAHRS RS232 Out to DFC90
12	N/A	Reserved	Not used
13	N/A	Reserved	Not used

J732	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
14	N/A	Reserved	Not used
15	N/A	Reserved	Not used
16	N/A	Reserved	Not used
17	N/A	Reserved	Not used
18	N/A	Reserved	Not used
19	N/A	Reserved	Not used
20	N/A	Reserved	Not used
21	J1 Pin 33	A429 TX1B	PFD ARINC 429 Out 1B
22	J1 Pin 13	A429 TX1A	PFD ARINC 429 Out 1A
23	N/A	Reserved	Not used
24	N/A	Reserved	Not used
25	Shield GND	Shield GND	Internal Shield GND
26	N/A	Reserved	Not used
27	N/A	Reserved	Not used
28	N/A	Reserved	Not used
29	N/A	Reserved	Not used
30	N/A	Reserved	Not used
31	K1 Pin 10	DFC RS232	DFC RS232 out to DFC90
32	N/A	Reserved	Not used
33	N/A	Reserved	Not used
34	N/A	Reserved	Not used
35	N/A	Reserved	Not used
36	N/A	Reserved	Not used
37	N/A	Reserved	Not used
38	N/A	Reserved	Not used
39	N/A	Reserved	Not used
40	N/A	Reserved	Not used
41	N/A	Reserved	Not used
42	N/A	Reserved	Not used
43	N/A	Reserved	Not used
44	N/A	Reserved	Not used
45	N/A	Reserved	Not used
46	N/A	Reserved	Not used
47	N/A	Reserved	Not used
48	N/A	Reserved	Not used
49	Shield GND	Shield GND	Internal Shield GND
50	J1 Pin 30 P5 Pin 51	RS232 RX	RS232 RX From DFC90
51	N/A	Reserved	Not used
52	N/A	Reserved	Not used
53	N/A	Reserved	Not used
54	N/A	Reserved	Not used

J732	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
55	N/A	Reserved	Not used
56	N/A	Reserved	Not used
57	N/A	Reserved	Not used
58	N/A	Reserved	Not used
59	N/A	Reserved	Not used
60	N/A	Reserved	Not used
61	N/A	Reserved	Not used
62	N/A	Reserved	Not used
63	N/A	Reserved	Not used
64	N/A	Reserved	Not used
65	N/A	Reserved	Not used
66	N/A	Reserved	Not used
67	N/A	Reserved	Not used
68	N/A	Reserved	Not used
69	N/A	Reserved	Not used
70	N/A	Reserved	Not used
71	N/A	Reserved	Not used
72	N/A	Reserved	Not used
73	N/A	Reserved	Not used
74	N/A	Reserved	Not used
75	N/A	Reserved	Not used
76	N/A	Reserved	Not used
77	N/A	Reserved	Not used
78	N/A	Reserved	Not used

A.3.7. P1401/P599

Figure A-13: Vantage12 PFD EZ Adapter P1401/P599 Connector Location and Pinout

Table A-8: Vantage12 PFD EZ Adapter P1401/P599 Connector Pin Function List

P1401/P599	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
1	N/A	Reserved	Not used
2	N/A	Reserved	Not used
3	N/A	Reserved	Not used

4	N/A	Reserved	Not used
5	N/A	Reserved	Not used
6	N/A	Reserved	Not used
7	N/A	Reserved	Not used
8	N/A	Reserved	Not used
9	N/A	Reserved	Not used
10	N/A	Reserved	Not used
11	N/A	Reserved	Not used
12	N/A	Reserved	Not used
13	N/A	Reserved	Not used
14	N/A	Reserved	Not used
15	N/A	Reserved	Not used
16	N/A	Reserved	Not used
17	N/A	Reserved	Not used
18	J1 Pin 45	RS232 GND	RS232 GND from DAU*
19	N/A	Reserved	Not used
20	N/A	Reserved	Not used
21	N/A	Reserved	Not used
22	N/A	Reserved	Not used
23	N/A	Reserved	Not used
24	N/A	Reserved	Not used
25	J1 Pin 26	RS232 RX2	RS232 RX from DAU*
26	N/A	Reserved	Not used

*Connector only applicable for DAU equipped aircraft. Connector will be left unconnected for SIU aircraft.

A.3.8. K1

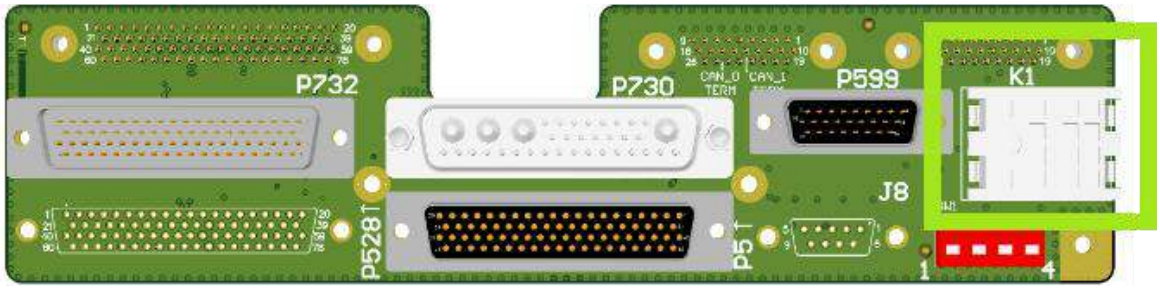


Figure A-14: Vantage12 PFD EZ Adapter K1 Socket Location

Table A-9: Vantage12 PFD EZ Adapter K1 Pin Function List

K1	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
1	P5 Pin 52	RS232 Input	DFC AHRS RS232 Input from MFD
2	P5 Pin 53	RS232 Input	DFC RS232 Input from MFD
3	N/A	Reserved	Not used
4	N/A	Reserved	Not used
5	J1 Pin 9	RS232 Input	DFC AHRS RS232 Input from PFD

K1	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
6	J1 Pin 10	RS232 Input	DFC RS232 Input from PFD
7	N/A	Reserved	Not used
8	N/A	Reserved	Not used
9	J732 Pin 11	RS232 Out	DFC AHRS RS232 Out to DFC90
10	J732 Pin 31	RS232 Out	DFC RS232 Out to DFC90
11	N/A	Reserved	Not used
12	N/A	Reserved	Not used
13	P730 Pin A1	Relay X+	Fail Safe Relay Coil PWR
14	J1 Pin 69	Relay X-	Fail Safe Relay Coil X-

A.3.9. SW1

Figure A-15: Vantage12 PFD EZ Adapter SW 1 Location

Table A-10: Vantage12 PFD EZ Adapter SW 1 Pin Function List

SW1	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
1	P5 Pin 32	Mag GND	MFD GND Out to #1 Mag/OAT
2	P5 Pin 32	Mag GND	MFD GND Out to #1 Mag/OAT
3	P5 Pin 12	Mag PWR	MFD PWR Out to #1 Mag
4	P5 Pin 12	Mag PWR	MFD PWR Out to #1 Mag
5	P5 Pin 13	RS422+	#1 Mag/OAT RS422+ Out to MFD
6	P5 Pin 33	RS422-	#1 Mag / OAT RS422- Out to MFD
7	N/A	Reserved	Not used
8	N/A	Reserved	Not used
9	N/A	Reserved	Not used
10	N/A	Reserved	Not used
11	J1 Pin 32 J730 Pin 13	RS422 RX-	#1 Mag/OAT RS422-
12	J1 Pin 12 J730 Pin 5	RS422 RX+	#1 Mag/OAT RS422+
13	J1 Pin 63 J730 Pin 31	Relay X+	Fail Safe Relay Coil PWR

SW1	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
14	J1 Pin 63 J730 Pin 31	Relay X-	Fail Safe Relay Coil X-
15	J1 Pin 43 J730 Pin 32	Mag GND	MFD Mag/OAT GND
16	J1 Pin 43 J730 Pin 32	Mag GND	MFD Mag/OAT GND

A.4. MFD EZ Adapter 310-00401-100

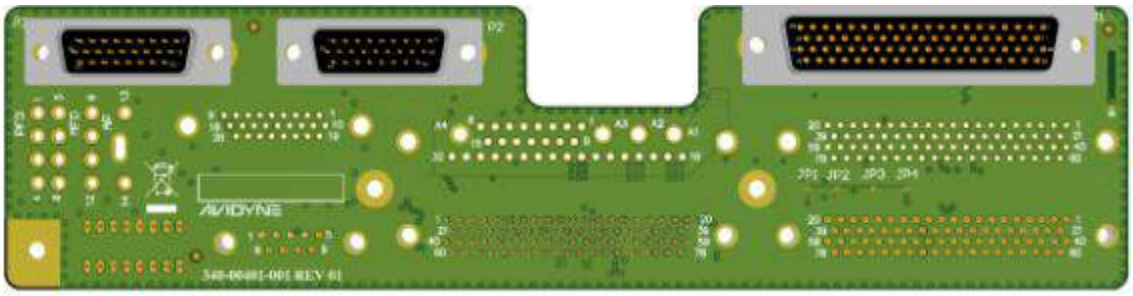


Figure A-16: Vantage12 MFD EZ Adapter Bottom View

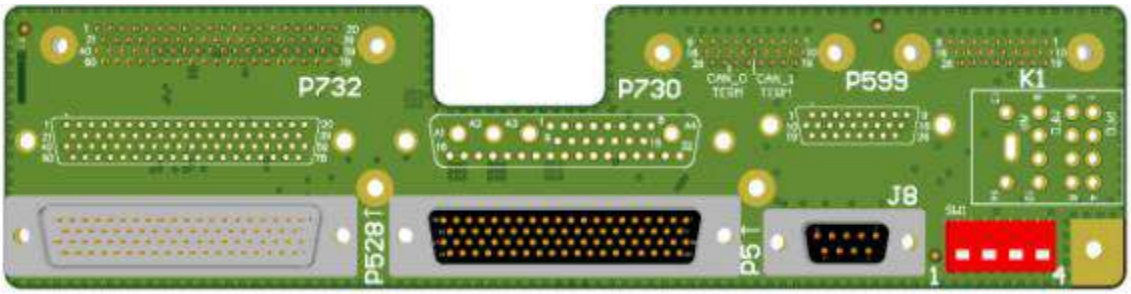


Figure A-17: Vantage12 MFD EZ Adapter Top View

A.4.1. J1 – Connects to Vantage12 MFD P1

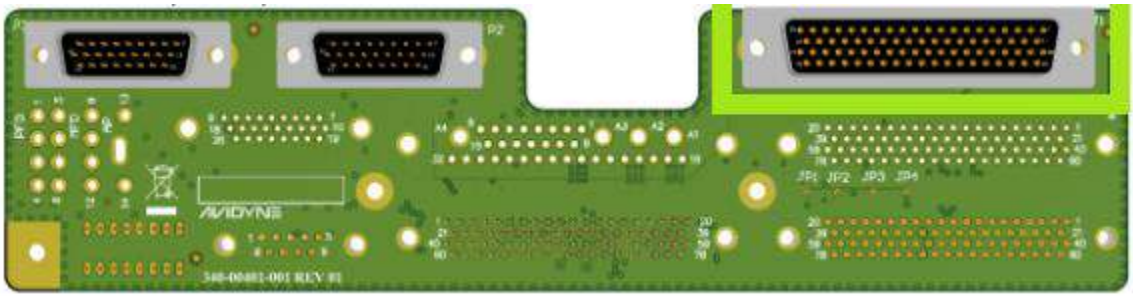


Figure A-18: Vantage12 MFD EZ Adapter J1 Connector Location and Pinout

Table A-11: Vantage12 MFD EZ Adapter J1 Connector Pin Function List

MFD EZ Adapter J1	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
1	P528 Pin 40	PWR A	MFD PWR Avionics Bus

MFD EZ Adapter J1	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
2	P528 Pin 41	PWR A	MFD PWR Avionics Bus
3	N/A	Reserved	Not used
4	N/A	Reserved	Not used
5	P5 Pin 19	485/232 CH1 TX	#1 ADC RS232
6	P528 Pin 30	485/232 CH2 TX	SIU RS232
7		485/232 CH3 TX	
8	P528 Pin 69	485/232 CH4 TX	XMD076 or ADSB Wx
9	P5 Pin 71	485/232 CH5 TX	DFC90 ADAHRS RS232
10	P5 Pin 72	485/232 CH6 TX	DFC90 RS232
11	J8 Pin 4	RS422 TX7+	#1 Magnetometer RS422 or Not Connected
12	J8 Pin 5, Dip SW 3	RS422 RX8+	#1 or #2 Magnetometer RS422
13	N/A	Reserved	Not used
14	N/A	ARINC 429 TX 2A	Not used
15	N/A	Reserved	Not used
16	N/A	Reserved	Not used
17	N/A	Reserved	Not used
18	N/A	Reserved	Not used
19	P528 Pin 8	ARINC 429 RX 1A	429 from Traffic Device
20	N/A	Reserved	Not used
21	P730 Pin A1	PWR A	MFD PWR Avionics Bus
22	N/A	Reserved	Not used
23	N/A	Reserved	Not used
24	N/A	Reserved	Not used
25	P5 Pin 20	485/232 CH1 RX	#1 ADC RS232
26	P528 Pin 31	485/232 CH2 RX	SIU RS232 or DAU RS232
27	P528 Pin 49	485/232 CH3 RX	WX500/TWX670
28	P528 Pin 70	485/232 CH4 RX	XMD076 or ADS-B Wx
29	N/A	485/232 CH5 RX	Not used
30	P5 Pin 72	485/232 CH6 RX	DFC90 RS232
31	J8 Pin 8	RS422 TX7-	#1 Magnetometer RS422 or Not Connected
32	J8 Pin 9 SW 3	RS422 RX8-	#1 or #2 Magnetometer RS422
33	N/A	ARINC 429 TX 1B	Not Used
34	N/A	ARINC 429 TX 2B	Not used
35	N/A	Reserved	Not used
36	N/A	Reserved	Not used
37	N/A	Reserved	Not used
38	N/A	Reserved	Not used
39	P528 Pin 28	ARINC 429 RX 1B	429 from Traffic Device

MFD EZ Adapter J1	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
40	P528 Pin 60	PWR GND	Existing PWR GND
41	P528 Pin 61	PWR GND	Existing PWR GND
42	P528 Pin 62	PWR GND	Existing PWR GND
43	J8 Pin 6 SW 1	MAG GND	Mag/OAT GND from MFD
44	N/A	Reserved	Not used
45	N/A	Reserved	Not used
46	N/A	Reserved	Not used
47	N/A	Reserved	Not used
48	N/A	Reserved	Not used
49	N/A	Reserved	Not used
50	N/A	Reserved	Not used
51	N/A	Reserved	Not used
52	N/A	Reserved	Not used
53	N/A	Reserved	Not used
54	N/A	Reserved	Not used
55	N/A	Reserved	Not used
56	P528 Pin 71	GND	XMD076 or ADSB Wx RS232 GND
57	P528 Pin 51	GND	WX500/TWX670 RS232 GND
58	P528 Pin 32	GND	SIU RS232 GND
59	N/A	Reserved	Not used
60	J1 Pin 76 P528 Pin 62	Dim Bus GND PWR GND	Dim Bus GND PWR GND
61	N/A	Reserved	Not used
62	N/A	Reserved	Not used
63	J8 Pin 1 SW2	24V MAG PWR	Mag/OAT PWR from MFD
64	N/A	Reserved	Not used
65	N/A	Reserved	Not used
66	N/A	Reserved	Not used
67	N/A	Reserved	Not used
68	N/A	Reserved	Not used
69	P528 Pin 7	DISCRETE OUT 1	Discrete - Active Traffic
70	P528 Pin 47	DISCRETE OUT 2	Discrete - Active Traffic
71	N/A	Reserved	Not used
72	N/A	Reserved	Not used
73	N/A	Reserved	Not used
74	N/A	Reserved	Not used
75	P528 Pin 18	DIM BUS IN 1 +	Existing Dimming Bus
76	P528 Pin 62	DIM BUS IN 1 -	Existing PWR GND
77	N/A	Reserved	Not used
78	N/A	Reserved	Not used

A.4.2. P2 – Connects to Vantage12 MFD J2

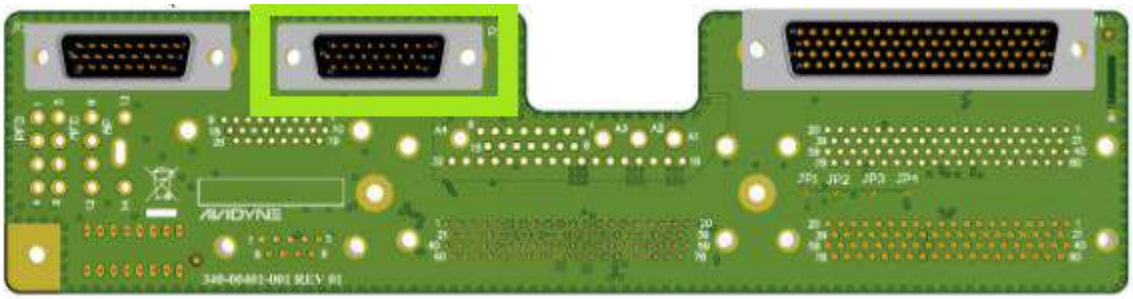


Figure A-19: Vantage12 MFD EZ Adapter P2 Connector Location and Pinout

Table A-12: Vantage12 MFD EZ Adapter P2 Connector Pin Function List

PFD P2	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
1		Ethernet CH2 TD3+	
2		Ethernet CH2 TD2+	
3	P5 Pin 46	Ethernet CH2 TD1+	Adapter Harness to IFD#1
4	P5 Pin 45	Ethernet CH2 TD0+	Adapter Harness to IFD#1
5		Shield GND	
6		Ethernet CH1 TD3+	
7		Ethernet CH1 TD2+	
8	P5 Pin 3	Ethernet CH1 TD1+	Adapter Harness to MFD
9	P5 Pin 4	Ethernet CH1 TD0+	Adapter Harness to MFD
10		Ethernet CH2 TD3-	
11		Ethernet CH2 TD2-	
12	P5 Pin 66	Ethernet CH2 TD1-	Adapter Harness to IFD#1
13	P5 Pin 65	Ethernet CH2 TD0-	Adapter Harness to IFD#1
14	P5 Pin 6	CAN CH 2 TERM	Unused
15		Ethernet CH1 TD3-	
16		Ethernet CH1 TD2-	
17	P5 Pin 23	Ethernet CH1 TD1-	Adapter Harness to MFD
18	P5 Pin 24	Ethernet CH1 TD0-	Adapter Harness to MFD
19		Reserved	
20		Reserved	
21		Reserved	
22	P5 Pin 6	CAN CH2 -	Unused in Vantage12 for Cirrus
23	P5 Pin 7	CAN CH2 +	Unused in Vantage12 for Cirrus
24	P2 Pin 25, P5 Pin 9	CAN CH1 TERM	Can Bus Termination for ADC #2
25	P2 Pin 24, P5 Pin 9	CAN CH1 -	CAN Bus Lo to ADC #2
26	P5 Pin 10	CAN CH1 +	Can Bus Hi to ADC #2

A.4.3. P3 – Connects to Vantage12 MFD J3

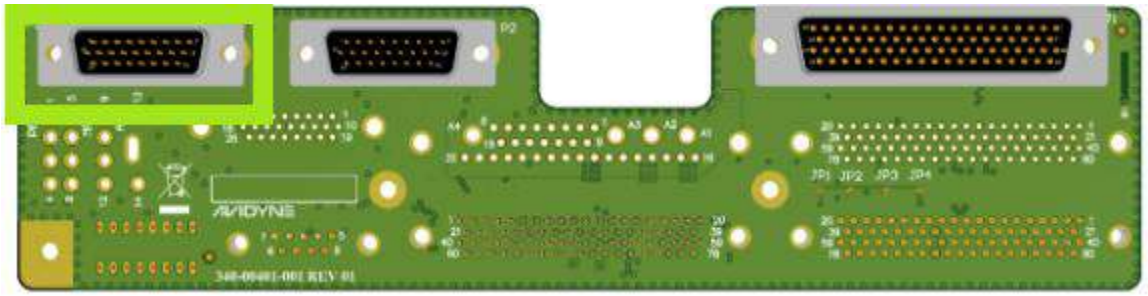


Figure A-20: Vantage12 MFD EZ Adapter P3 Location and Pinout – not used

A.4.4. P5 – Connects to EZ Adapter Harness

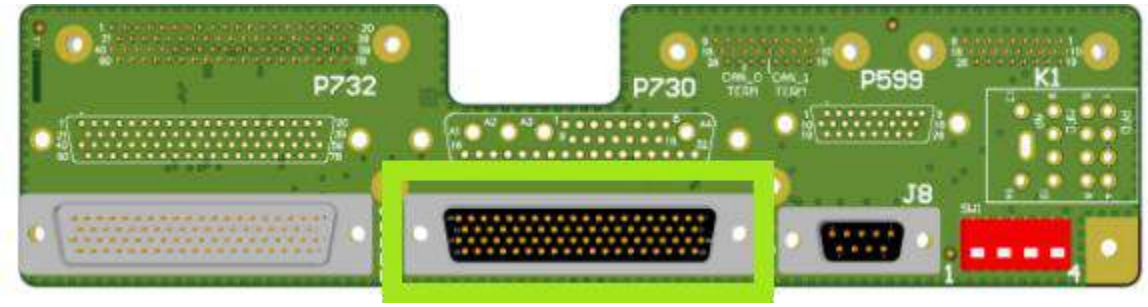


Figure A-21: Vantage12 MFD EZ Adapter P5 Location and Pinout

Table A-13: Vantage12 MFD EZ Adapter P5 Connector Pin Function List

P5	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
1	N/A	Reserved	Not used
2	N/A	Reserved	Not used
3	P2 Pin 8	Ethernet CH1 TD1+	Adapter Harness to PFD
4	P2 Pin 9	Ethernet CH1 TD0+	Adapter Harness to PFD
5	GND	Shield GND	HSBF Shield
6	N/A	Reserved	Not used
7	N/A	Reserved	Not used
8	N/A	Reserved	Not used
9	P2 Pin 24, P2 Pin 25	CAN Bus CH1 L	CAN Bus Channel 1 Lo to ADC #2
10	P2 Pin 26	CAN Bus CH1 H	CAN Bus Channel 1 Hi to ADC #2
11	Shield GND	CAN Bus Shield GND	Internal CAN Bus Shield
12	SW 2 Input	PWR w/SW2 Closed	SW1 Closed = Mag 1 PWR carryover from MFD SW 1 Open = Signal Not Used
13	SW 3 Output	Mag #1 RS422 TX+ w/SW3 Closed	SW3 Closed = Mag 1 RS422 TX+ carryover from PFD SW 3 Open = Signal Not Used
14	Shield GND	RS422 Shield GND	Internal Shield GND for Mag Data Cross-over

P5	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
15	N/A	Reserved	Not used in Vantage12 for Cirrus
16	N/A	Reserved	Not used
17	N/A	Reserved	Not used
18	Shield GND	RS232 Shield GND	Internal Shield GND
19	J1 Pin 5	RS232 TX1	RS232 TX1 To ADC #1
20	J1 Pin 25	RS232 RX1	RS232 RX1 From ADC #1
21	N/A	Reserved	Not used
22	N/A	Reserved	Not used
23	P2 Pin 17	HSBF Channel 1 TD1-	HSBF Channel 1 to PFD
24	P2 Pin 18	HSBF Channel 1 TD0-	HSBF Channel 1 to PFD
25	N/A	Reserved	Not used
26	N/A	Reserved	Not used
27	N/A	Reserved	Not used
28	N/A	Reserved	Not used
29	N/A	Reserved	Not used
30	N/A	Reserved	Not used
31	N/A	Reserved	Not used
32	SW 1 Input	PWR GND w/SW1 Closed	SW1 Closed = Mag 1 GND carryover from PFD SW 1 Open = Signal Not Used
33	SW 3 Output	Mag #1 RS422 TX- w/SW3 Closed	SW3 Closed = Mag 1 RS422 TX- carryover from PFD SW 3 Open = Signal Not Used
34	N/A	Reserved	Not used
35	N/A	Reserved	Not used
36	N/A	Reserved	Not used
37	N/A	Reserved	Not used
38	N/A	Reserved	Not used
39	N/A	Reserved	Not used
40	N/A	Reserved	Not used
41	N/A	Reserved	Not used
42	N/A	Reserved	Not used
43	N/A	Reserved	Not used
44	Shield GND	HSBF Shield GND	Internal Shield Connection
45	P2 Pin 4	HSBF Channel 2 TD0+	HSBF to IFD #2
46	P2 Pin 3	HSBF Channel 2 TD1+	HSBF to IFD #2
47	N/A	Reserved	Not used
48	N/A	Reserved	Not used
49	N/A	Reserved	Not used
50	N/A	Reserved	Not used
51	J1 Pin 30	RS232 From DFC	Mode, Selection, and Bug CMND from DFC90 to both PFD and MFD
52	N/A	Reserved	Not used

P5	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
53	N/A	Reserved	Not used
54	Shield GND	RS232 Shield GND	Internal Shield GND
55	N/A	Reserved	Not used
56	N/A	Reserved	Not used
57	N/A	Reserved	Not used
58	N/A	Reserved	Not used
59	N/A	Reserved	Not used
60	N/A	Reserved	Not used
61	N/A	Reserved	Not used
62	N/A	Reserved	Not used
63	N/A	Reserved	Not used
64	N/A	Reserved	Not used
65	P2 Pin 13	HSBF Channel 2 TD0-	HSBF to IFD #1
66	P2 Pin 12	HSBF Channel 2 TD1-	HSBF to IFD #1
67	N/A	Reserved	Not used
68	N/A	Reserved	Not used
69	N/A	Reserved	Not used
70	N/A	Reserved	Not used
71	J1 Pin 9	RS232 ADAHRS To DFC	ADAHRS Data from MFD to AP Fail Safe Relay
72	J1 Pin 10	RS232 To DFC90	DFC90 CMND Data from MFD to AP Fail Safe Relay
73	N/A	Reserved	Not used
74	N/A	Reserved	Not used
75	N/A	Reserved	Not used
76	N/A	Reserved	Not used
77	N/A	Reserved	Not used
78	N/A	Reserved	Not used

A.4.5. J8 – Connects to #2 Magnetometer (If installed)

Figure A-22: Vantage12 MFD EZ Adapter J8 Location and Pinout

Table A-14: Vantage12 MFD EZ Adapter J8 Connector Pin Function List

J8	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
1	J1 Pin 63	#2 Mag/OAT PWR	#2 Mag/OAT PWR
2	N/A	Reserved	Not used
3	N/A	Reserved	Not used
4	J1 Pin 11	RS422 TX7+	RS422 TX7+ to #2 Mag
5	J1 Pin 12	RS422 RX8+	RS422 RX8+ from #2 Mag
6	J1 Pin 43	#2 Mag/OAT GND	#2 Mag/OAT GND
7	Shield GND	RS232 Shield GND	Internal Shield GND
8	J1 Pin 31	RS422 TX7-	RS422 TX7- to #2 Mag
9	J1 Pin 32	RS422 RX8+	RS422 RX8+ from #2 Mag

A.4.6. P528 – Connects to existing aircraft MFD Wiring J528

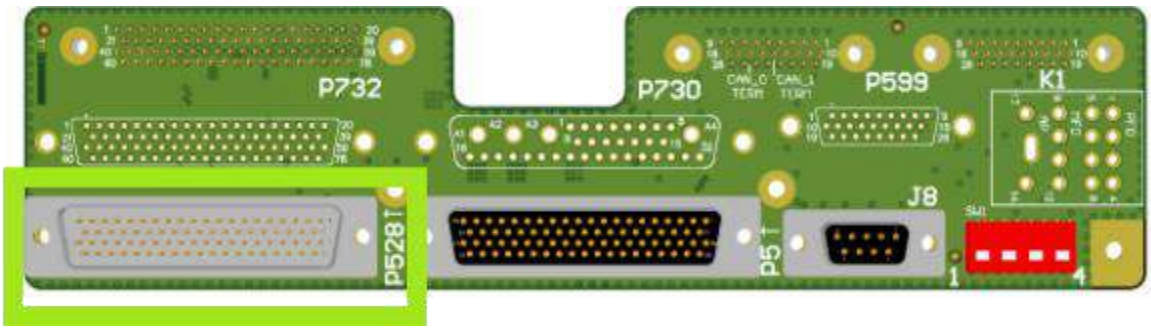


Figure A-23: Vantage12 MFD EZ Adapter P528 Location and Pinout

Table A-15: Vantage12 MFD EZ Adapter P528 Connector Pin Function List

P528	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
1	N/A	Reserved	Not used
2	N/A	Reserved	Not used
3	N/A	Reserved	Not used
4	Shield GND	RS232 Shield GND	Internal Shield GND
5	N/A	Reserved	Not used
6	J1 Pin 26	RS232 TX2	RS232 out to SIU
7	J1 Pin 69	Discrete out 1	Disc out 1 to Traffic Device
8	J1 Pin 19	A429 RX1A	429 in 1A from Traffic Device
9	N/A	Reserved	Not used
10	N/A	Reserved	Not used
11	N/A	Reserved	Not used
12	N/A	Reserved	Not used
13	N/A	Reserved	Not used
14	N/A	Reserved	Not used
15	N/A	Reserved	Not used
16	N/A	Reserved	Not used
17	N/A	Reserved	Not used

P528	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
18	J1 Pin 75	Dim Bus Hi	MFD Dim Bus from existing
19	N/A	Reserved	Not used
20	N/A	Reserved	Not used
21	N/A	Reserved	Not used
22	N/A	Reserved	Not used
23	N/A	Reserved	Not used
24	Shield GND	RS232 Shield GND	Internal Shield GND
25	N/A	Reserved	Not used
26	N/A	Reserved	Not used
27	N/A	Reserved	Not used
28	J1 Pin 39	A429 RX1A	429 in 1A from Traffic Device
29	N/A	Reserved	Not used
30	N/A	Reserved	Not used
31	J1 Pin 26	RS232 RX2	RS232 in from SIU/DAU
32	J1 Pin 58	RS232 GND	RS232 GND from SIU/DAU
33	N/A	Reserved	Not used
34	N/A	Reserved	Not used
35	N/A	Reserved	Not used
36	N/A	Reserved	Not used
37	N/A	Reserved	Not used
38	N/A	Reserved	Not used
39	N/A	Reserved	Not used
40	J1 Pin 1	MFD PWR In	MFD PWR from existing Avionics Bus
41	J1 Pin 2	MFD PWR In	MFD PWR from existing Avionics Bus
42	J1 Pin 21	MFD PWR In	MFD PWR from existing Avionics Bus
43	N/A	Reserved	Not used
44	N/A	Reserved	Not used
45	N/A	Reserved	Not used
46	N/A	Reserved	Not used
47	J1 Pin 70	Discrete out 2	Disc out 1 to Traffic Device
48	N/A	Reserved	Not used
49	J1 Pin 7	RS232 TX 3	RS232 TX3 out to WX500/TWX
50	J1 Pin 27	RS232 RX3	RS232 RX3 in from WX500/TWX
51	J1 Pin 57	RS232 GND	RS232-3 GND
52	N/A	Reserved	Not used
53	N/A	Reserved	Not used
54	N/A	Reserved	Not used
55	N/A	Reserved	Not used
56	N/A	Reserved	Not used
57	N/A	Reserved	Not used

P528	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
58	N/A	Reserved	Not used
59	N/A	Reserved	Not used
60	J1 Pin 40	MFD PWR GND	MFD PWR GND from existing GND Block
61	J1 Pin 41	MFD PWR GND	MFD PWR GND from existing GND Block
62	J1 Pin 60 J1 Pin 76	MFD PWR GND Dim Bus GND	MFD PWR GND/Dim Bus GND from existing GND Block
63	N/A	Reserved	Not used
64	N/A	Reserved	Not used
65	N/A	Reserved	Not used
66	N/A	Reserved	Not used
67	N/A	Reserved	Not used
68	N/A	Reserved	Not used
69	J1 Pin 8	RS232 TX 4	RS232 TX4 out to WX Device
70	J1 Pin 28	RS232 RX4	RS232 RX4 from WX Device
71	J1 Pin 56	RS232 GND	RS232-4 GND
72	N/A	Reserved	Not used
73	N/A	Reserved	Not used
74	N/A	Reserved	Not used
75	N/A	Reserved	Not used
76	N/A	Reserved	Not used
77	N/A	Reserved	Not used
78	N/A	Reserved	Not used

A.4.7. SW1

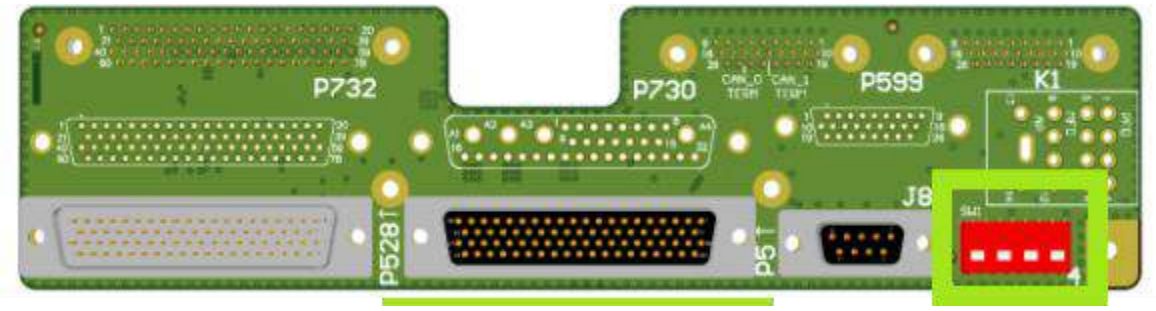


Figure A-24: Vantage12 MFD EZ Adapter SW1 Location and Pinout

Table A-16: Vantage12 MFD EZ Adapter SW1 Pin Function List

SW1	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
1	P5 Pin 32	Mag GND	MFD GND Out to #1 Mag/OAT
2	P5 Pin 32	Mag GND	MFD GND Out to #1 Mag/OAT
3	P5 Pin 12	Mag PWR	MFD PWR Out to #1 Mag

SW1	EZ Adapter Interface	Function	Vantage12 for Cirrus Use
4	P5 Pin 12	Mag PWR	MFD PWR Out to #1 Mag
5	P5 Pin 13	RS422+	#1 Mag/OAT RS422+ Out to MFD
6	P5 Pin 33	RS422-	#1 Mag / OAT RS422- Out to MFD
7	N/A	Reserved	Not used
8	N/A	Reserved	Not used
9	N/A	Reserved	Not used
10	N/A	Reserved	Not used
11	J1 Pin 32 J8 Pin 9	RS422 RX-	#1 Mag/OAT RS422-
12	J1 Pin 12 J8 Pin 5	RS422 RX+	#1 Mag/OAT RS422+
13	J1 Pin 63 J8 Pin 1	Relay X+	Fail Safe Relay Coil PWR
14	J1 Pin 63 J8 Pin 1	Relay X-	Fail Safe Relay Coil X-
15	J1 Pin 43 J8 Pin 6	Mag GND	MFD Mag/OAT GND
16	J1 Pin 43 J8 Pin 6	Mag GND	MFD Mag/OAT GND

Appendix B ADC900 & Magnetometer I/O Definition

B.1. ADC900 Connector P1

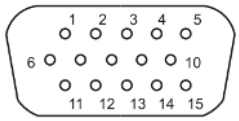


Figure B-1: Air Data Computer P1 Connector Pinout

Table B-1: Air Data Computer P1 Connector Pin Function List

ADC P1	Function	Description
1	OAT VCC Out	5V power for OAT (not used in Vantage12)
2	CAN_LO	Isolated CAN (Downstream)
3	CAN_HI	Isolated CAN (Downstream)
4	ID0	Strapping for ID bit 0
5	VBUS In	External Power Input
6	Reserved	Reserved
7	OAT Digital	Digital input from OAT (not used in Vantage12)
8	CAN_LO	Isolated CAN (Upstream)
9	CAN_HI	Isolated CAN (Upstream)
10	ID1	Strapping for ID bit 1
11	OAT GND	PWR Return for OAT (not used in Vantage12)
12	RS232 TX	Serial Output from ADC
13	RS232 RX	Serial Input to ADC
14	DGND	Reference digital GND
15	PWR RTN	External Power Return

B.2. MAG300 Connector P734

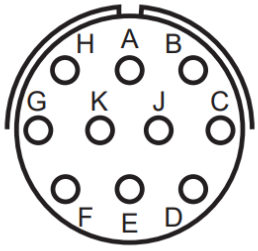


Figure B-2: Magnetometer / OAT Connector Pinout

Table B-2: Magnetometer / OAT Connector Pin Function List

P734	Function	Description
A		
B	PWR GND	From Vantage Display
C	RS422 TX-	
D	RS422 TX+	
E		
F	RS422 RX+	
G	RS422 RX-	
H	24V PWR IN	From Vantage Display
K		
J		

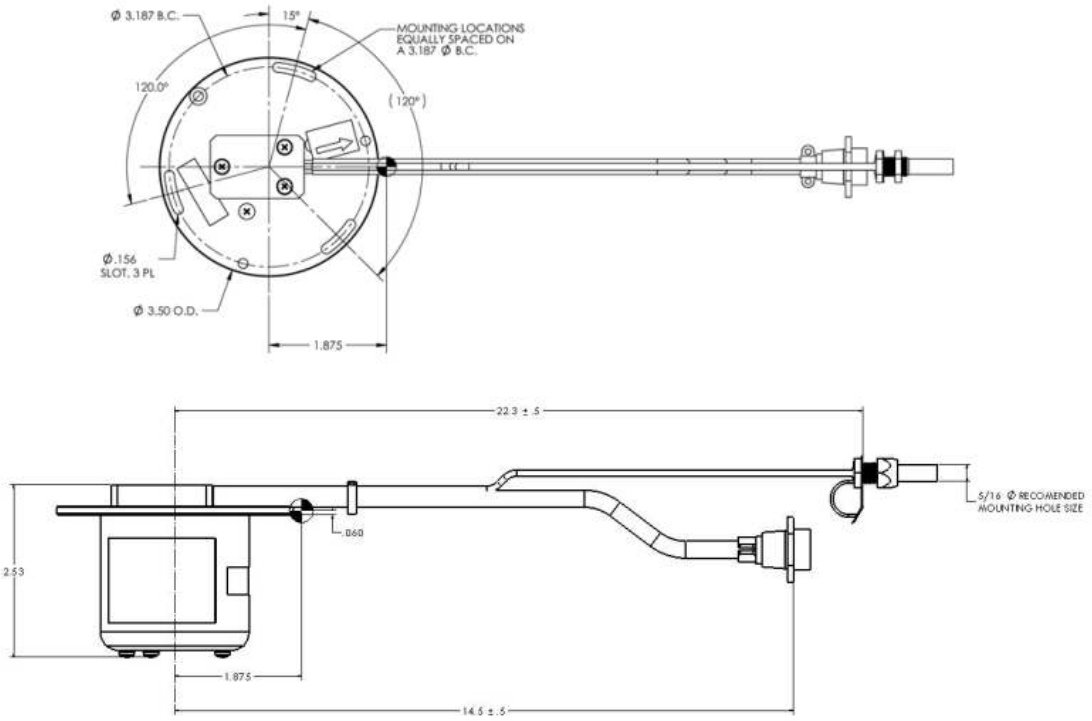


Figure B-3: MAG300 Magnetometer and OAT Probe

Appendix C Mechanical Drawings

C.1. Unit Dimensions with center of gravity

C.1.1. Vantage12 PFD with ADC900 and EZ Adapter Installed

The weight of the PFD with ADC900 and EZ Adapter installed is 8.2 lbs +/- 0.3 lbs.

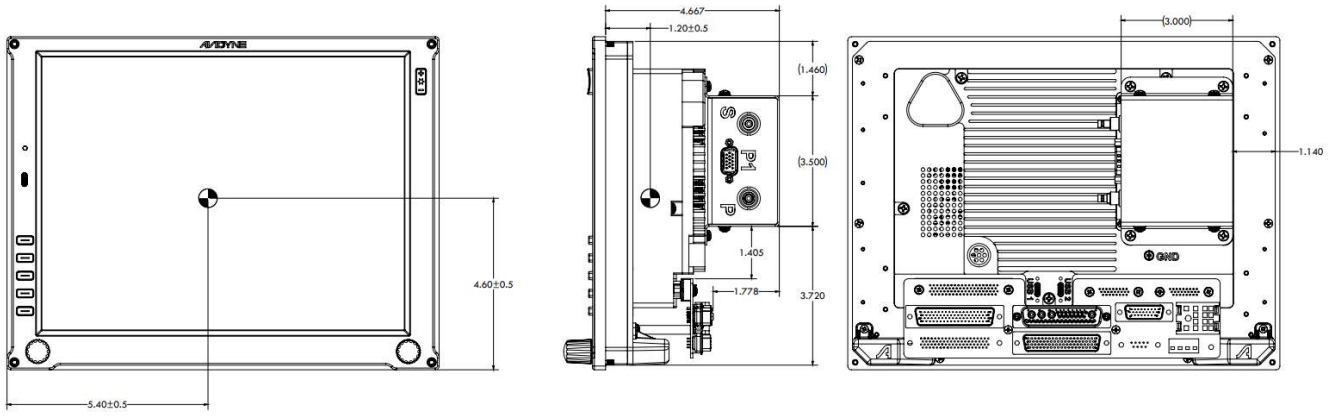


Figure C-1: Vantage12 PFD with ADC and EZ Adapter

C.1.2. Vantage12 MFD with ADC900 and EZ Adapter Installed

The weight of the MFD with ADC900 and EZ Adapter Installed is 8.2 lbs +/- 0.3 lbs.

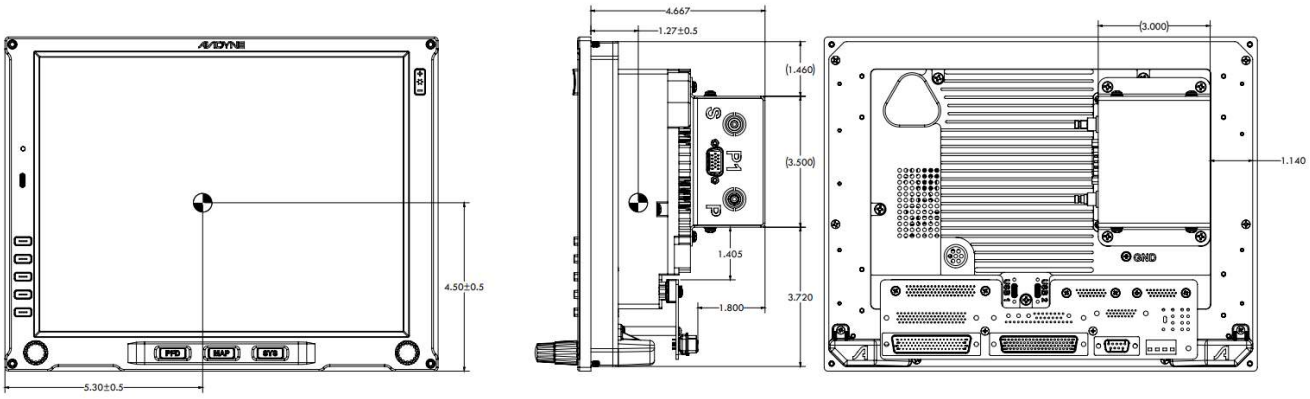


Figure C-2: Vantage12 MFD with ADC and EZ Adapter (Dual ADC Installations)

C.1.3. Vantage12 MFD with EZ Adapter installed (Single ADC900 Installations)

The weight of the MFD with the EZ Adapter installed without a 2nd ADC900 installed is 7.7 lbs +/- 0.25 lbs.

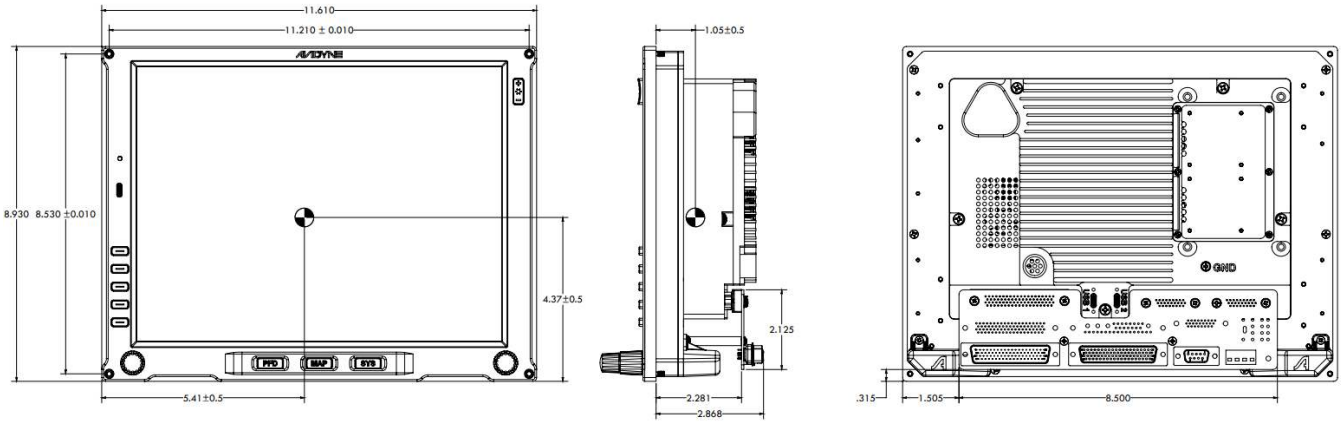


Figure C-3: Vantage12 MFD with EZ Adapter (Single ADC Installations)

C.1.4. Avidyne ADC900 Dimensions

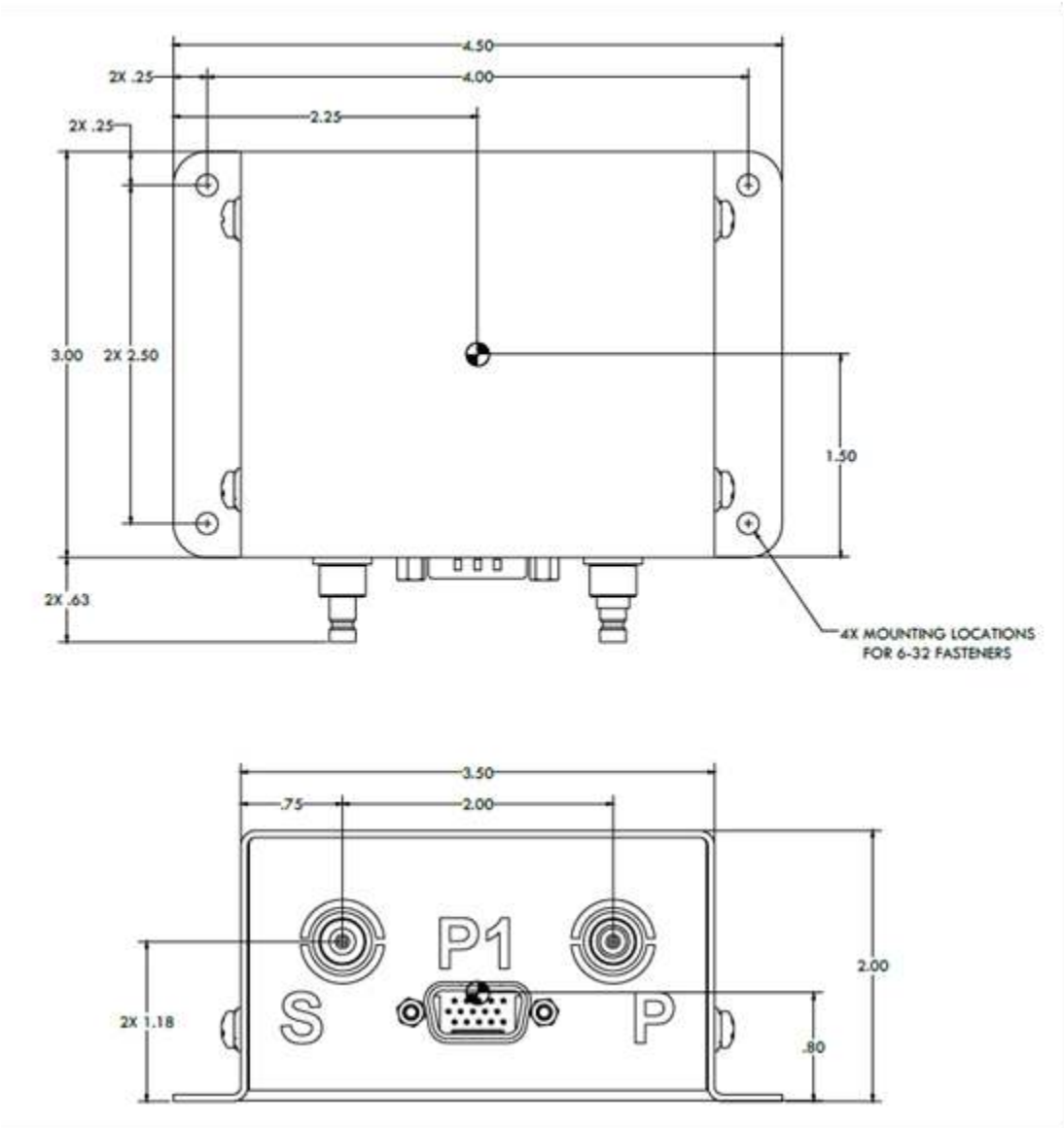
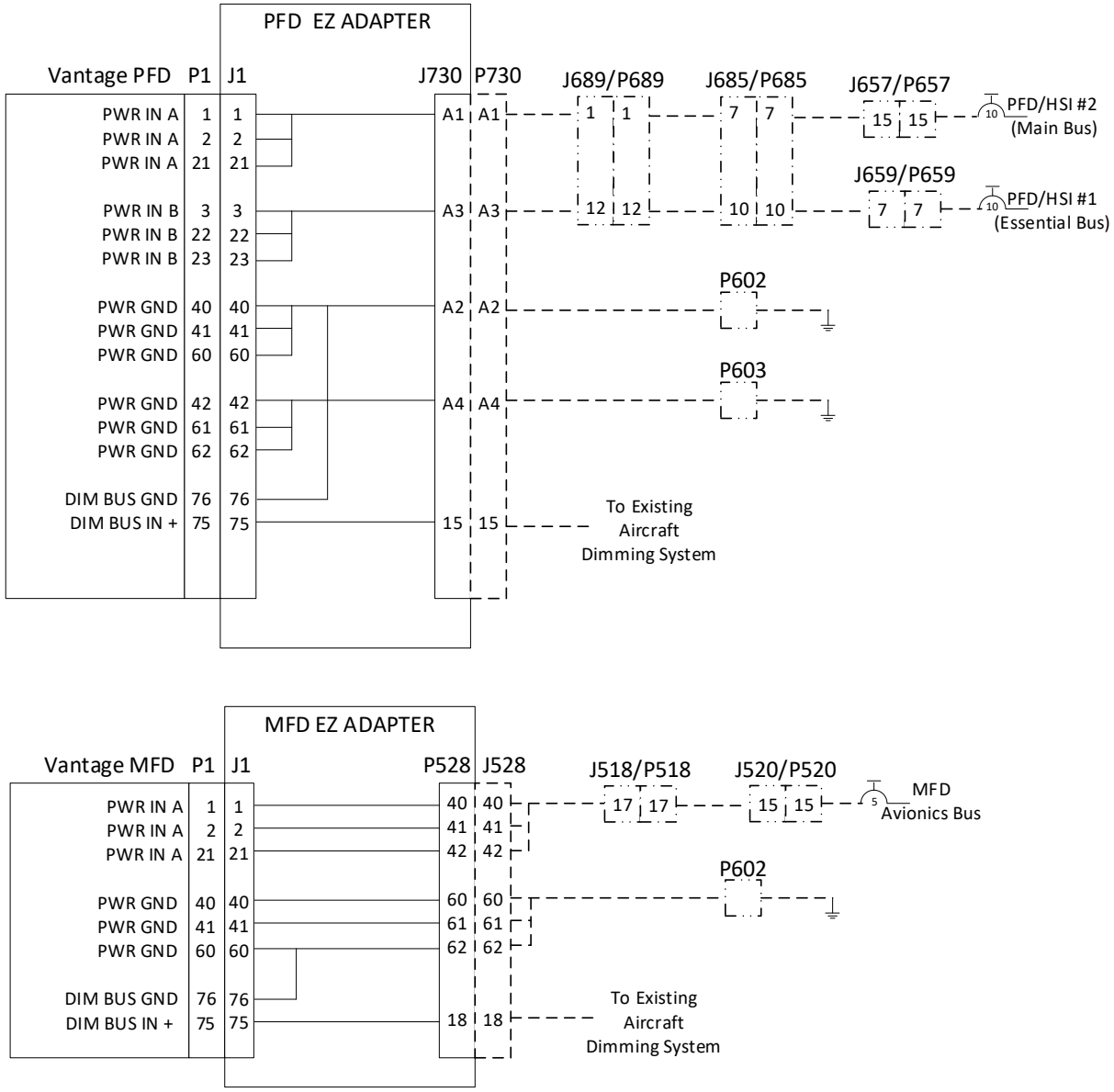


Figure C-4: Avidyne ADC900 Dimensions

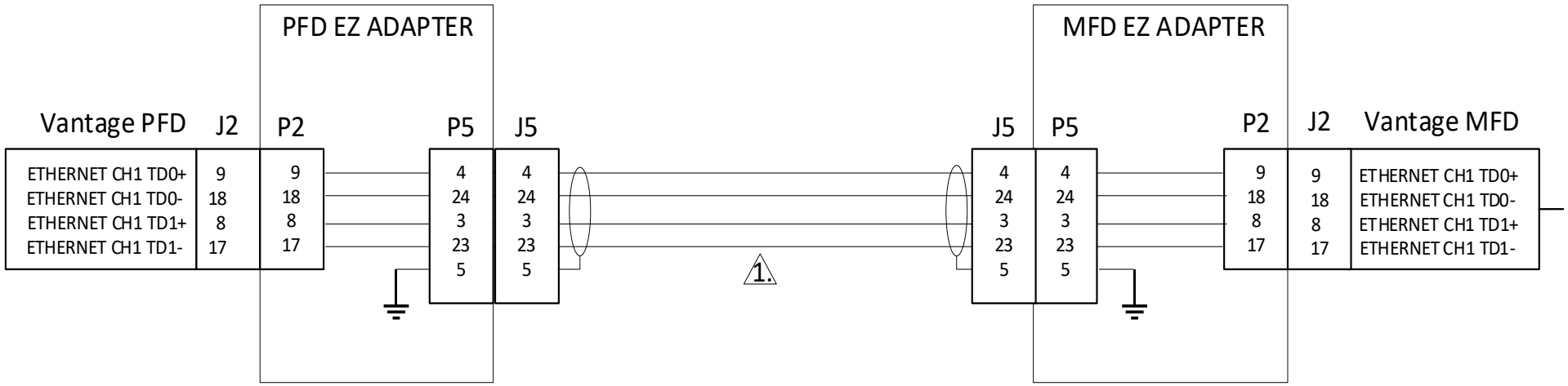
Appendix D Electrical Interface Drawings



NOTES:

1. – – – – – – Denotes existing wires / connectors and equipment

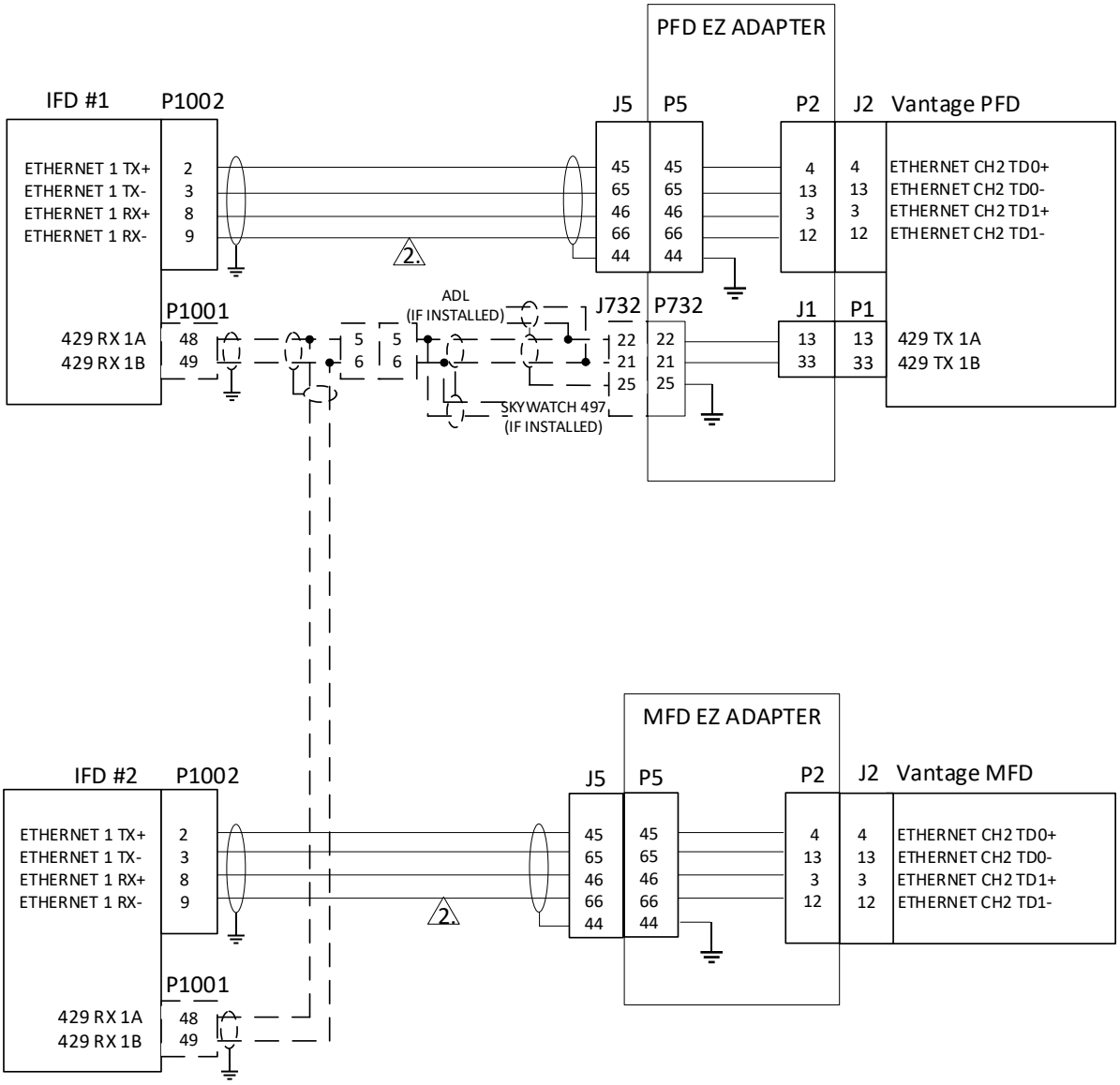
Figure D-1: Vantage PFD / MFD Lighting, Power and GND



NOTES:

1. Ethernet wiring is part of EZ Adapter Harness P/N:100-00560-000

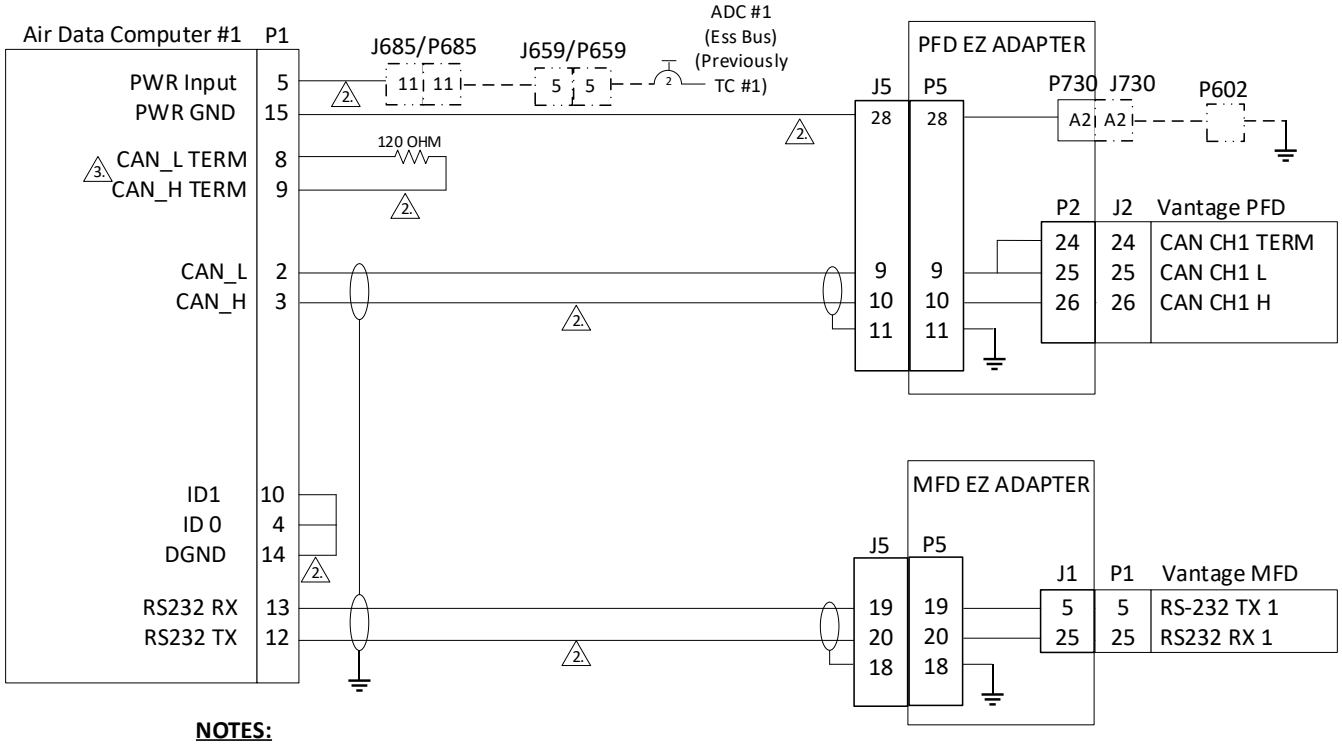
Figure D-2: Ethernet Connection Between Vantage PFD and Vantage MFD



NOTES:

1. – – – – – –Denotes existing wires / connectors and equipment
2. Ethernet wiring is part of EZ Adapter Wiring Harness P/N: 100-00560-000
3. Configurations:
   IFD#1 ARINC429 IN 1 = Honeywell EFIS; LOW SPEED
   IFD#2 ARINC429 IN 1 = Honeywell EFIS; LOW SPEED
   VANTAGE PFD ARINC 429 OUT1 = PFD; LOW SPEED

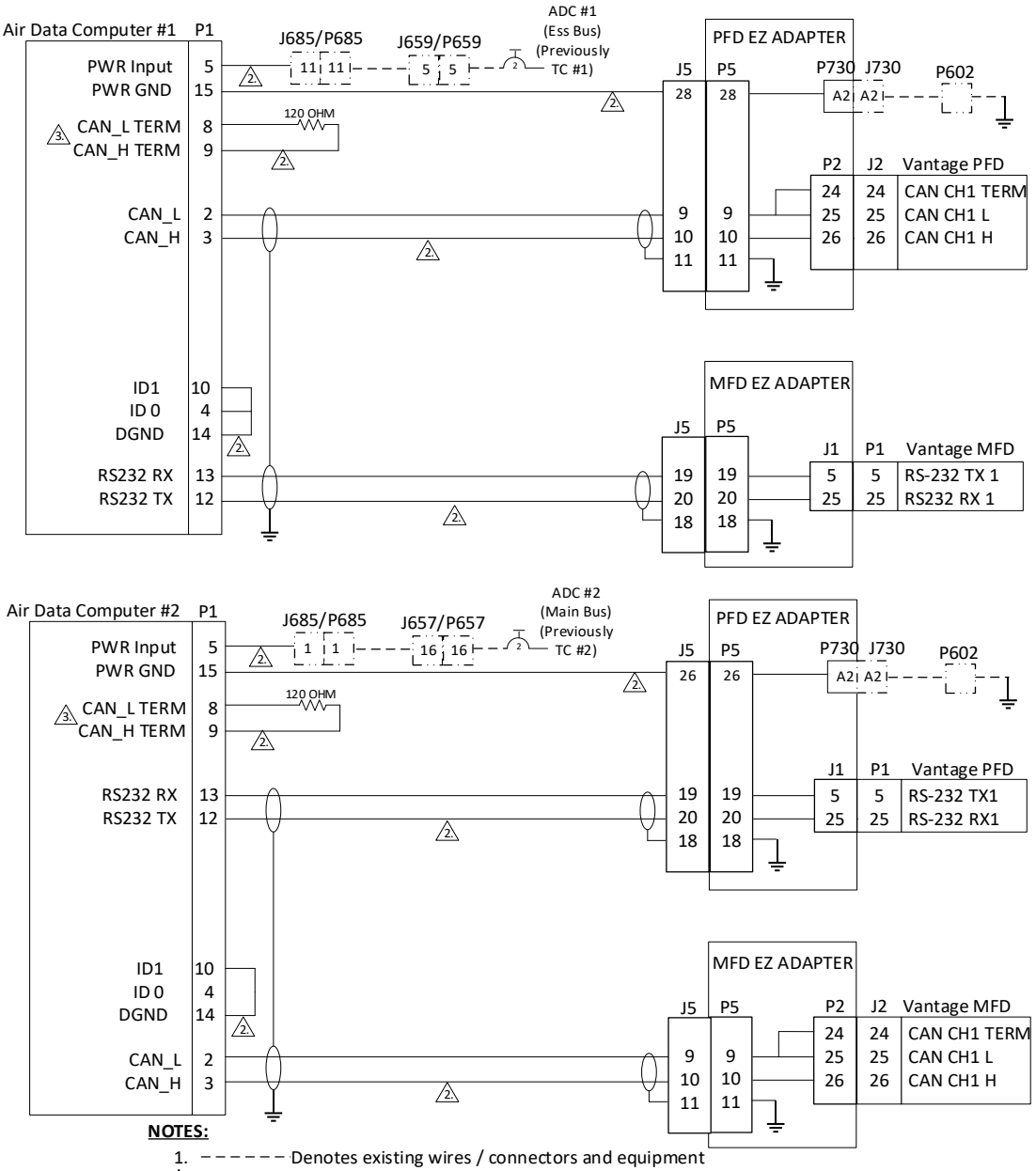
Figure D-3: Vantage Connections to Installed IFDs



NOTES:

1. – – – – – –Denotes existing wires / connectors and equipment
2. Wiring is part of EZ Adapter Wiring Harness P/N: 100-00560-000
3. CAN ports are paralleled internally. Installing a 120 ohm resistor designates that connection as a termination. In installations where the CAN bus continues to additional nodes, pins 8 and 9 should be used with the resistor removed. The CAN bus will then be required to terminate elsewhere.
4. Configurations:
   PFD CAN Channel 1 for “ADC1”
   MFD RS232 Channel 1 IN and OUT for “AviADC”

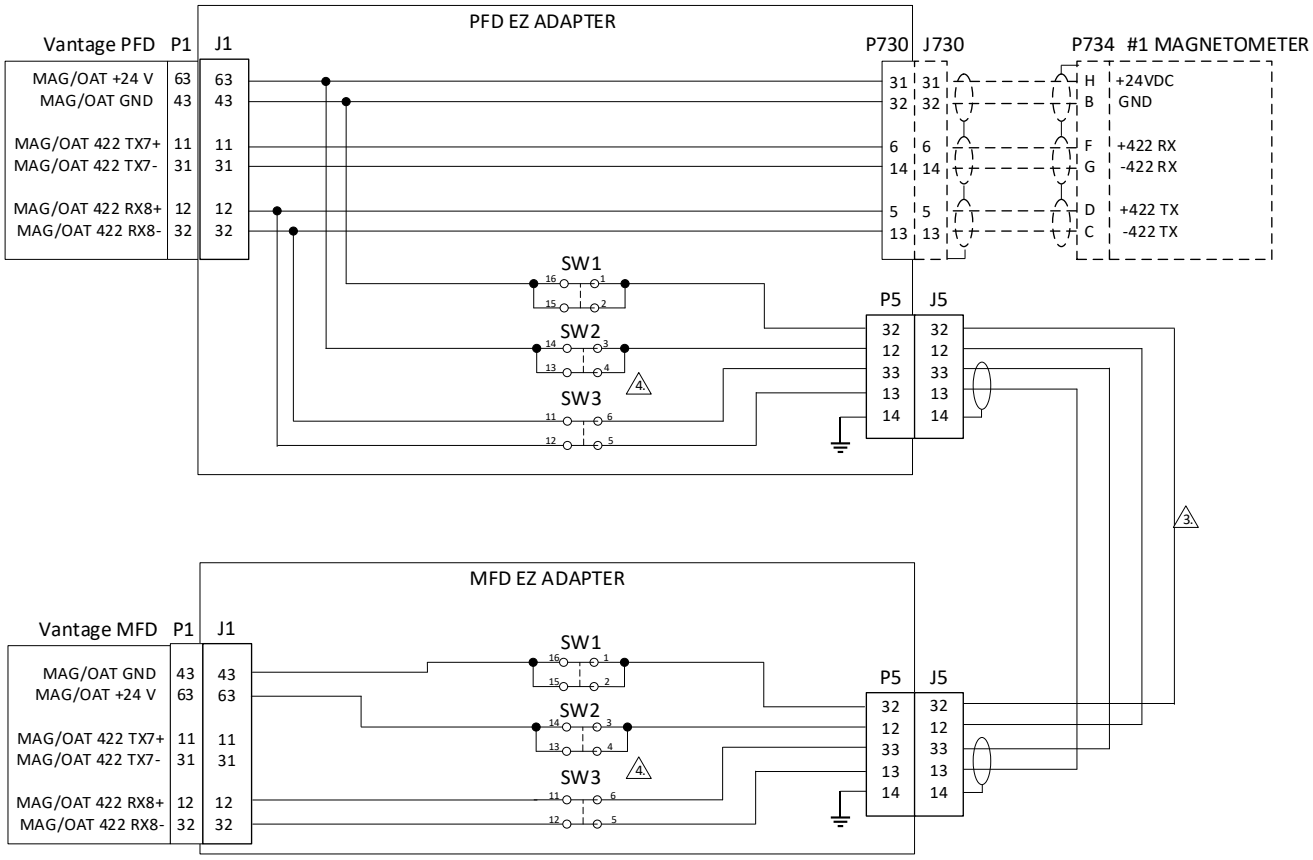
Figure D-4: Single ADC Installation for Vantage12



NOTES:

1. – – – – – – Denotes existing wires / connectors and equipment
2. Wiring is part of EZ Adapter Wiring Harness P/N: 100-00560-000
3. CAN ports are paralleled internally. Installing a 120 ohm resistor designates that connection as a termination. In installations where the CAN bus continues to additional nodes, pins 8 and 9 should be used with the resistor removed. The CAN bus will then be required to terminate elsewhere.
4. Configurations:
   PFD CAN 1 = "ADC1"
   PFD RS323 IN1 and OUT 1 = "AviADC"
   MFD CAN 1 = "ADC2"
   MFD RS232 IN1 and OUT1 = "AviADC"

Figure D-5: Dual ADC Installation for Vantage12

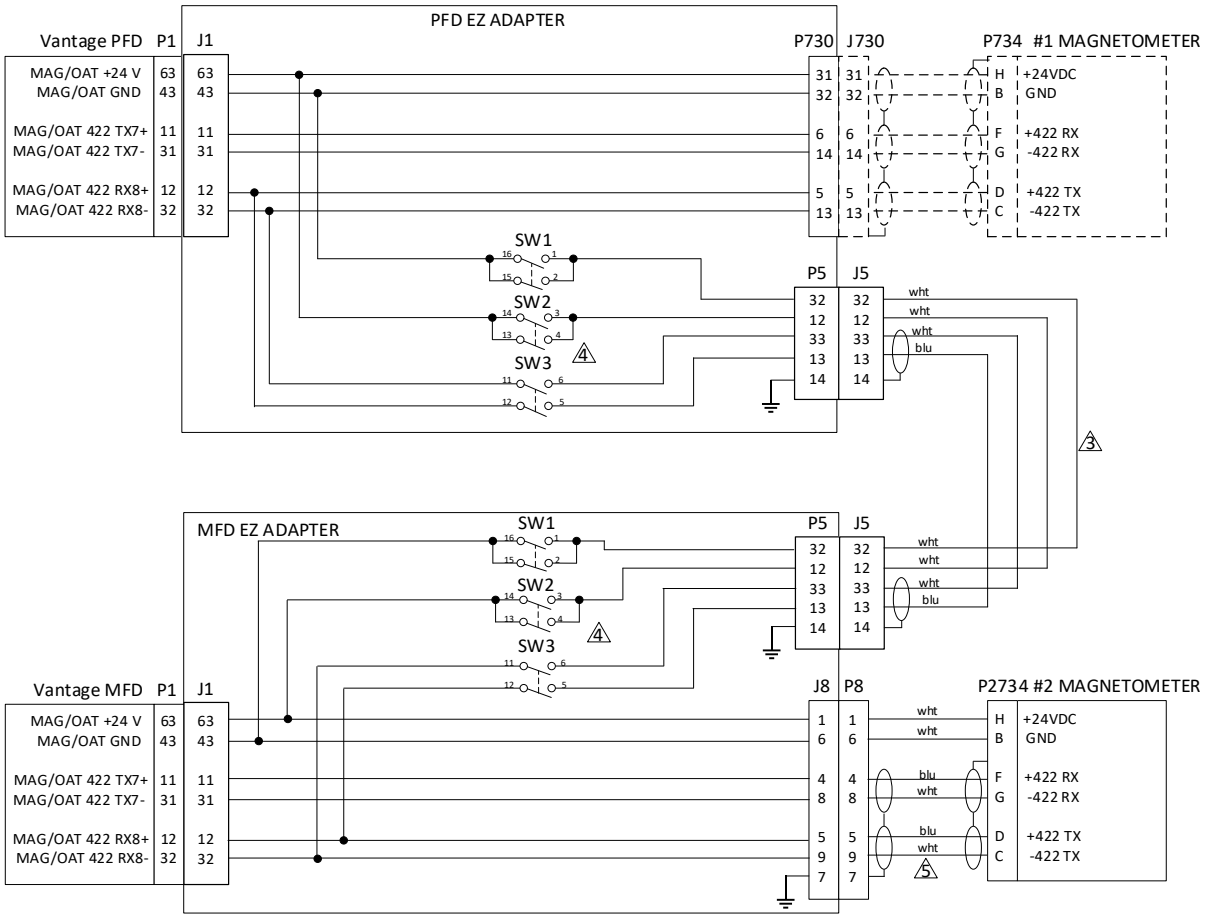


NOTES:

1. – – – – – –Denotes existing wires / connectors and equipment
2. Configurations:
   PFD RS232 Channel 7 & 8 Port Type set to RS422
   PFD Channel 7 IN = N/A; Channel 7 OUT = MAG
   PFD Channel 8 IN = MAG; Channel 8 out = N/A
   MFD RS232 Channel 7 & 8 Port Type set to RS422
   MFD Channel 7 IN = N/A; Channel 7 OUT = OFF
   MFD Channel 8 IN = MAG; Channel 8 OUT = N/A

3. Wiring is part of EZ Adapter Wiring Harness P/N: 100-00560-000
4. ALL Switches must be closed for single magnetometer installations. Closed = UP position on Dip Switch

Figure D-6: Single Magnetometer Interface for Vantage12

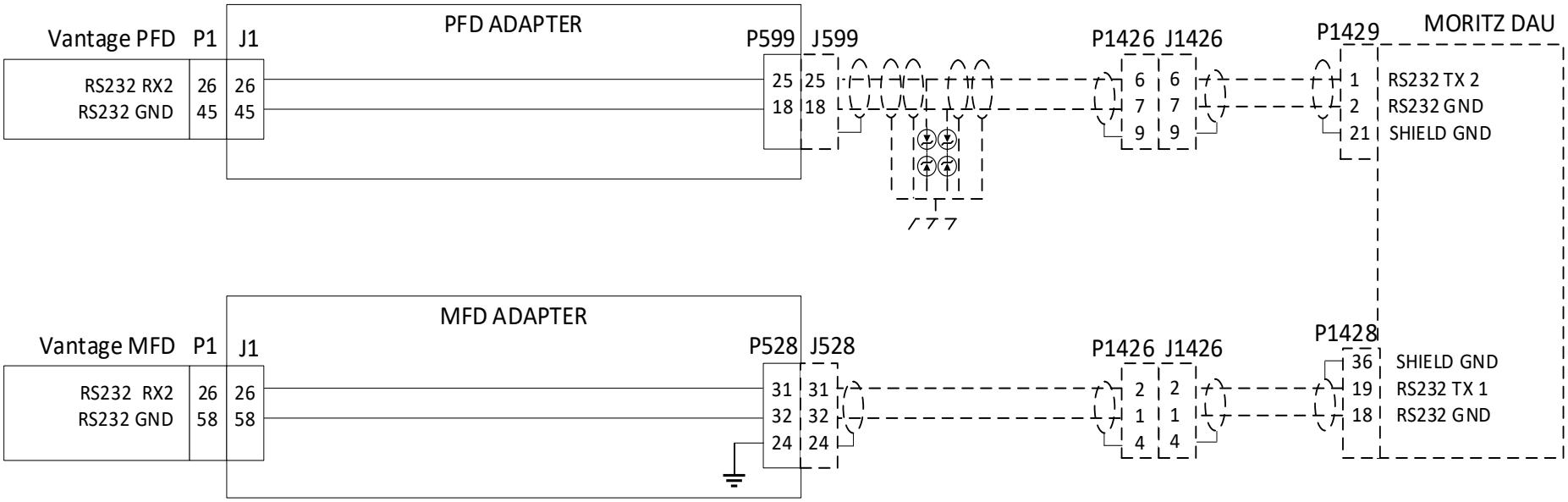


NOTES:

1. – – – – – –Denotes existing wires / connectors and equipment
2. Configurations:
   PFD RS232 Channel 7 & 8 Port Type set to RS422
   PFD Channel 7 IN = N/A; Channel 7 OUT = MAG
   PFD Channel 8 IN = MAG; Channel 8 out = N/A
   MFD RS232 Channel 7 & 8 Port Type set to RS422
   MFD Channel 7 IN = N/A; Channel 7 OUT = MAG
   MFD Channel 8 IN = MAG; Channel 8 OUT = N/A

3. Wiring is part of EZ Adapter Wiring Harness P/N: 100-00560-000
4. ALL Switches must be OPEN for dual magnetometer installations. OPEN = DOWN position on Dip Switch
5. Wiring is part of EZ Adapter Wiring Harness P/N: 100-00560-100

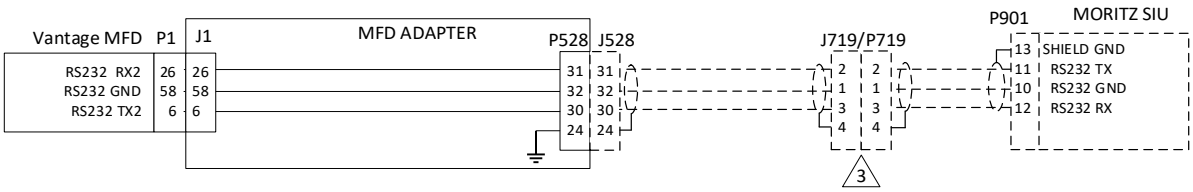
Figure D-7: Dual Magnetometer Interface for Vantage12



NOTES:

1. – – – – – – Denotes existing wires / connectors and equipment
2. Configurations:
   PFD RS232 IN 2 = Moritz DAU
   MFD RS232 IN 2 = Moritz DAU

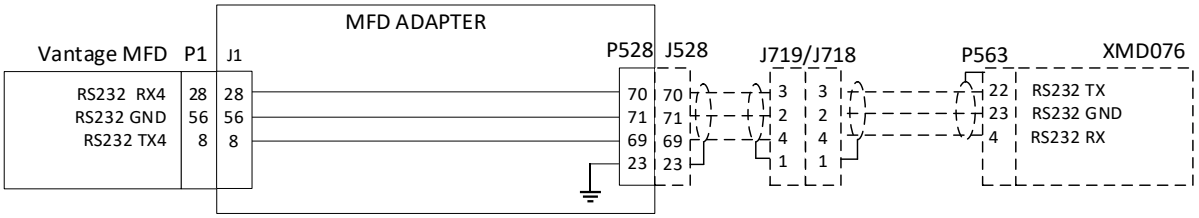
Figure D-8: Vantage12 Moritz DAU Interface



NOTES:

1. - - - - - - Denotes existing wires / connectors and equipment
2. Configurations:
   MFD RS232 IN = Moritz DAU
3. Connector J719/P719 only on SR20 S/N: 1533-1581;
   SR22 S/N: 1087 – 1662 w/SIU

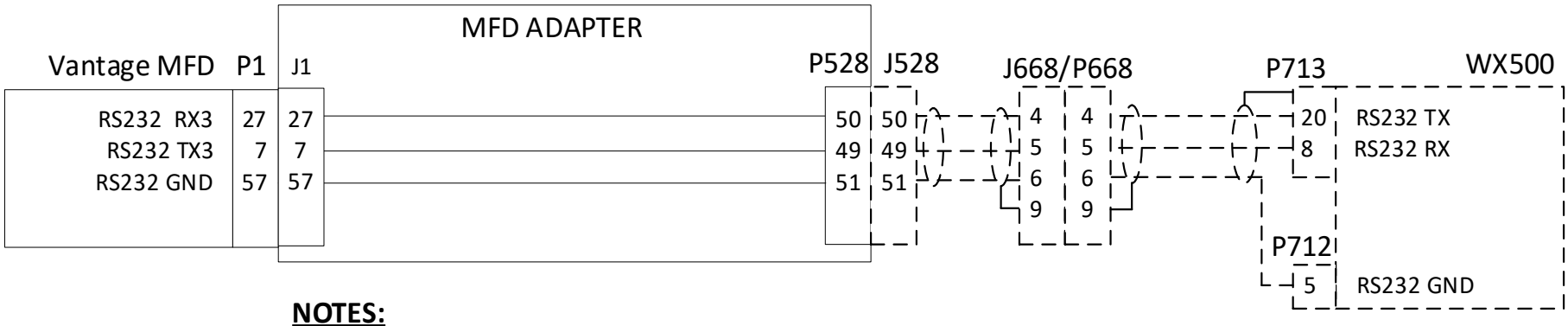
Figure D-9: Vantage12 Moritz SIU Interface



NOTES:

1. - - - - - - Denotes existing wires / connectors and equipment
2. Configurations:
   MFD RS232 OUT 4 = XMD076; RS232 IN 4 = XMD076

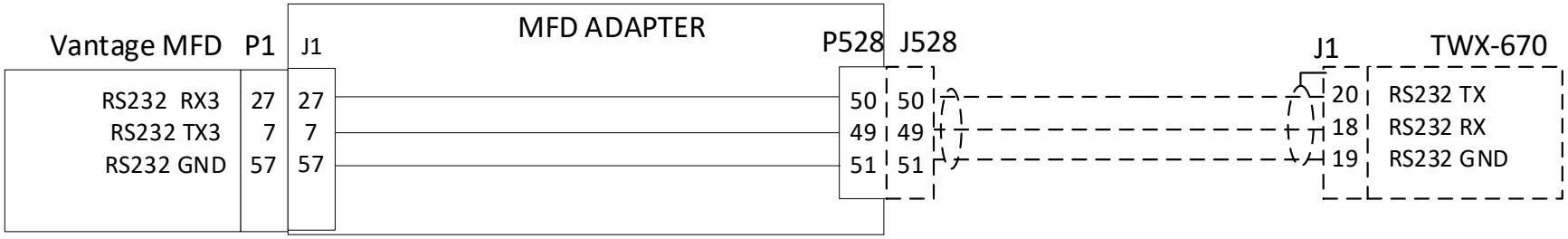
Figure D-10: Vantage12 XMD076 Interface



NOTES:

1. – – – – – – Denotes existing wires / connectors and equipment
2. Configurations:
   MFD RS232 OUT 3 = WX500; RS232 IN 3 = WX500

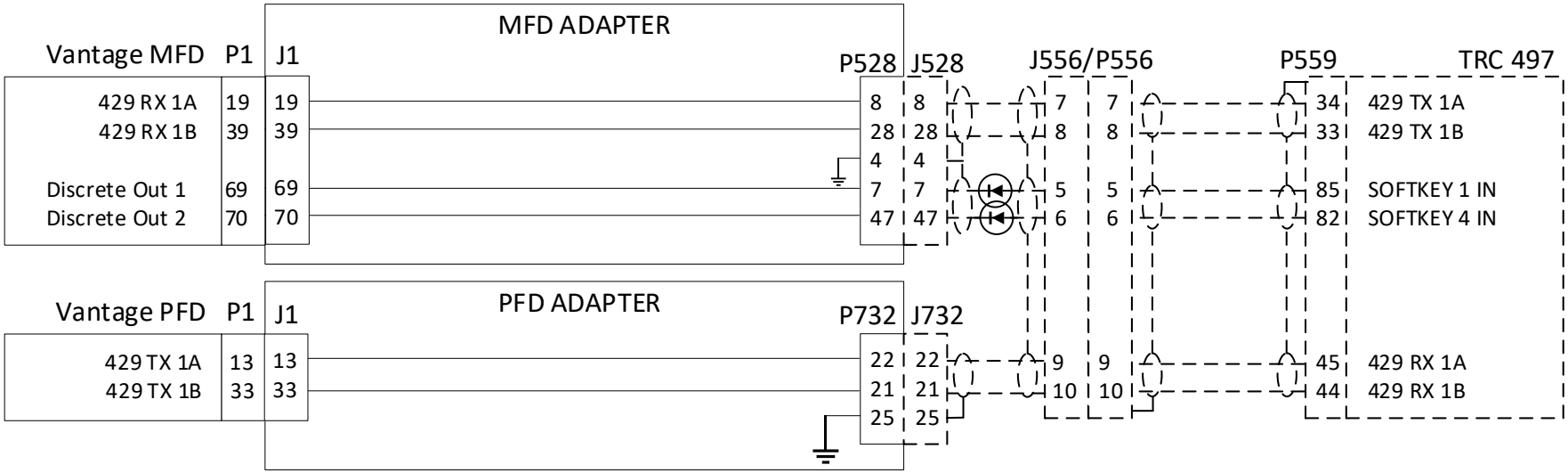
Figure D-11: Vantage12 WX500 Interface



NOTES:

1. – – – – – – Denotes existing wires / connectors and equipment
2. Configurations:
   MFD RS232 OUT 3 = TWX670; RS232 IN 3 = TWX670

Figure D-12: Vantage12 TWX-670 Interface

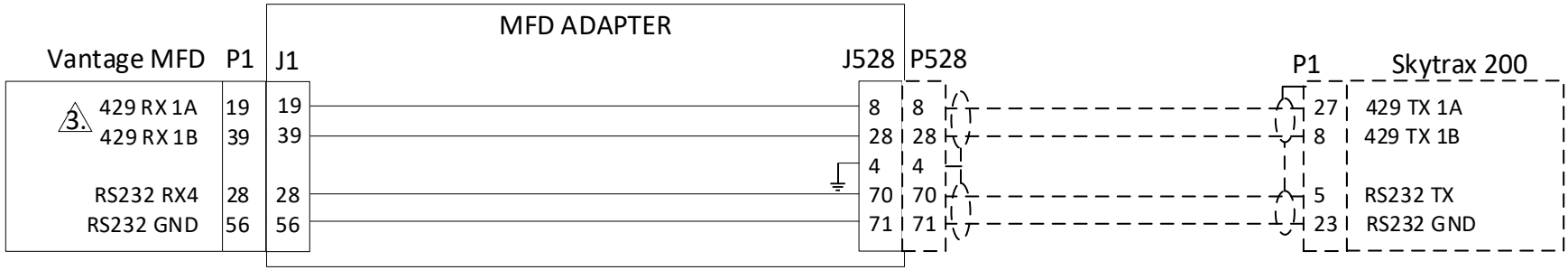


NOTES:

1. – – – – – – Denotes existing wires / connectors and equipment
2. Configurations:
   PFD ARINC429 OUT 1 = PFD; LOW SPEED
   MFD ARINC429 IN 1* = Traffic Advisory; HIGH SPEED

   * MFD ARINC IN 1 replaces Entegra MFD ARINC429 IN 3

Figure D-13: Vantage12 Skywatch 497 Interface – No Skytrax 200 installed

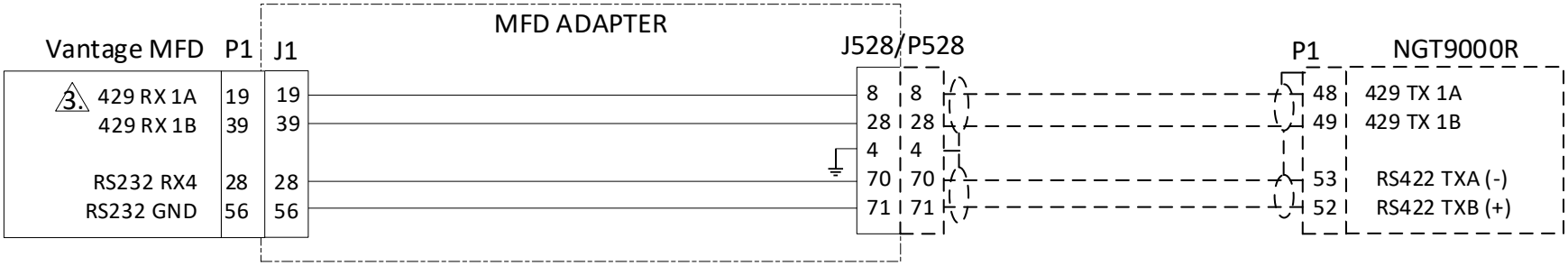


NOTES:

1. – – – – – – Denotes existing wires / connectors and equipment
2. Recommended Configurations:
   MFD ARINC429 IN 1 = OFF
   MFD RS232 IN 4 = Capstone TRFC & WX (38,400 baud)
   HS Capstone TRFC & WX (115,200 Baud)

3. The existing ARINC429 connection from ADS-B devices is no longer required for traffic display. ARINC429 ADS-B Traffic will not provide full ADS-B symbology. Setting the RS232 port for "Capstone TRFC & WX" or "Capstone HS TRFC & WX" will provide ADS-B Traffic with full ADS-B Symbology and Weather over the existing RS232 connection. For this reason, RS232 is the preferred method.

Figure D-14: Vantage12 Skytrax 200 Interface

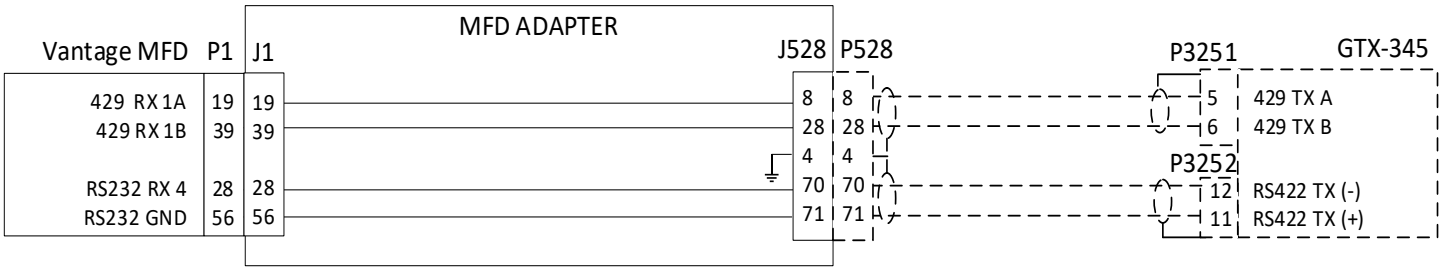


NOTES:

1. – – – – – – Denotes existing wires / connectors and equipment
2. Recommended Configurations:
   MFD ARINC429 IN 1 = OFF
   MFD RS232 IN 4 = Capstone TRFC & WX (38,400 baud)
   HS Capstone TRFC & WX (115,200 Baud)

3. The existing ARINC429 connection from ADS-B devices is no longer required for traffic display. ARINC429 ADS-B Traffic will not provide full ADS-B symbology. Setting the RS232 port for "Capstone TRFC & WX" or "Capstone HS TRFC & WX" will provide ADS-B Traffic with full ADS-B Symbology and Weather over the existing RS232 connection. For this reason, RS232 is the preferred method.

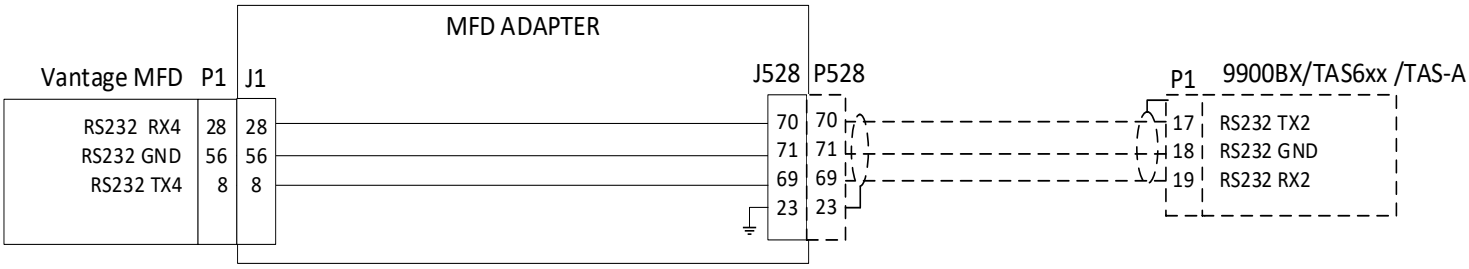
Figure D-15: Vantage12 NGT9000 / NGT9000r Interface



NOTES:

1. – – – – – – Denotes existing wires / connectors and equipment
2. Configurations:
   MFD ARINC429 IN 1* = GDL88 Traffic; HIGH SPEED
   MFD RS232 IN 4 = Capstone WX (38,400 Baud)
   HS Capstone WX (115,200 Baud)
   * MFD ARINC IN 1 replaces Entegra MFD ARINC429 IN 3

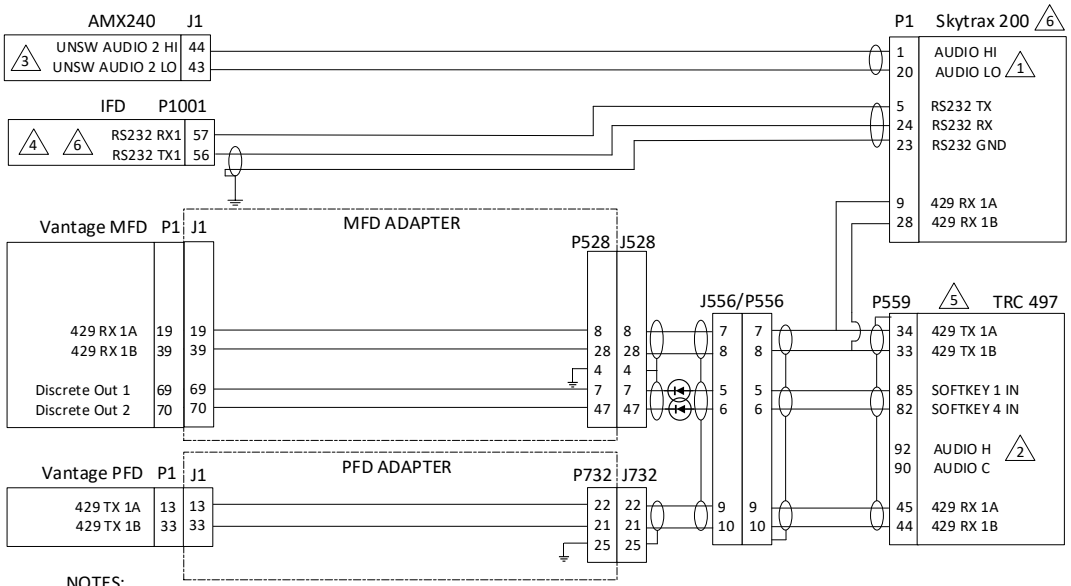
Figure D-16: Vantage12 GTX345 Interface



NOTES:

1. – – – – – – Denotes existing wires / connectors and equipment
2. Configurations:
   MFD RS232 IN 4 = Ryan TCAD; RS232 OUT 4 = Ryan TCAD

Figure D-17: Vantage12 9900BX / TAS-6xx / TAS-A Interface



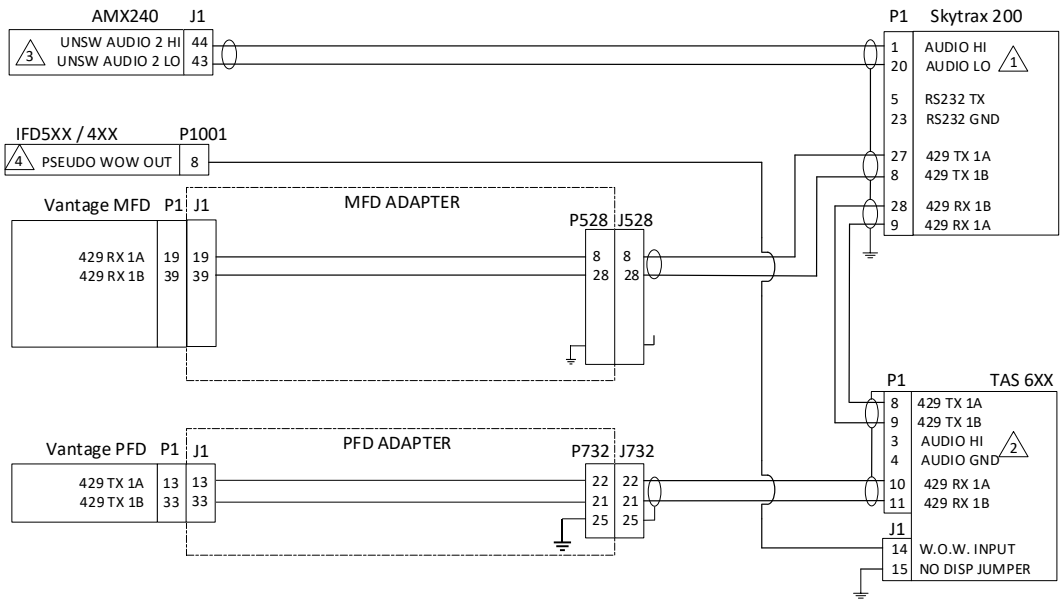
NOTES:

1. AUDIO OUT FUNCTIONALITY ON THE ST200 REQUIRES SOFTWARE VERSION 530-00247-000 REV03 OR LATER
2. EXISTING AUDIO WIRING FROM THE TRC497 WILL BE DISCONNECTED CAPPED AND STOWED
3. CONNECT TO ANY UNSWITCHED INPUT ON THE AUDIO PANEL. IF AUDIO PANEL IS NOT AN AMX240, SEE MANUFACTURER'S DOCUMENTATION FOR PIN NUMBERS AND DETAILS
4. IT IS ACCEPTABLE TO USE ANY AVAILABLE RS-232 PORT, SEE 600-00299-000 LATEST REV FOR COMPLETE DETAILS
5. CONFIGURATION UNAVAILABLE UNTIL VANTAGE RELEASE 12.0.1.2. PRIOR TO 12.0.1.2 RELEASE, SKYWATCH BREAKER SHOULD BE PULLED AND MFD 429 IN PORT CONFIGURED TO "OFF" TO PREVENT DISSIMILAR TRAFFIC DISPLAY IN THE COCKPIT. SKYTRAX ADS-B ONLY TRAFFIC WILL BE PROVIDED ACROSS ALL DISPLAYS FROM IFD.
6. COMPLETE SKYTRAX WIRING NOT PICTURED. SEE 600-00335-000 LATEST REV FOR COMPLETE DETAILS

VANTAGE CONFIGURATION SETTINGS:
PFD A429 OUT 1 = LOW SPEED ; PFD429
MFD A429 IN 1 = HIGH SPEED; SKYWATCH STATUS 5

IFD CONFIGURATION SETTINGS:
232 RX1 = CAPSTONE HS TRFC+WX

Figure D-18: Vantage12 Skytrax200+TRC497 Hybridized Traffic Interface



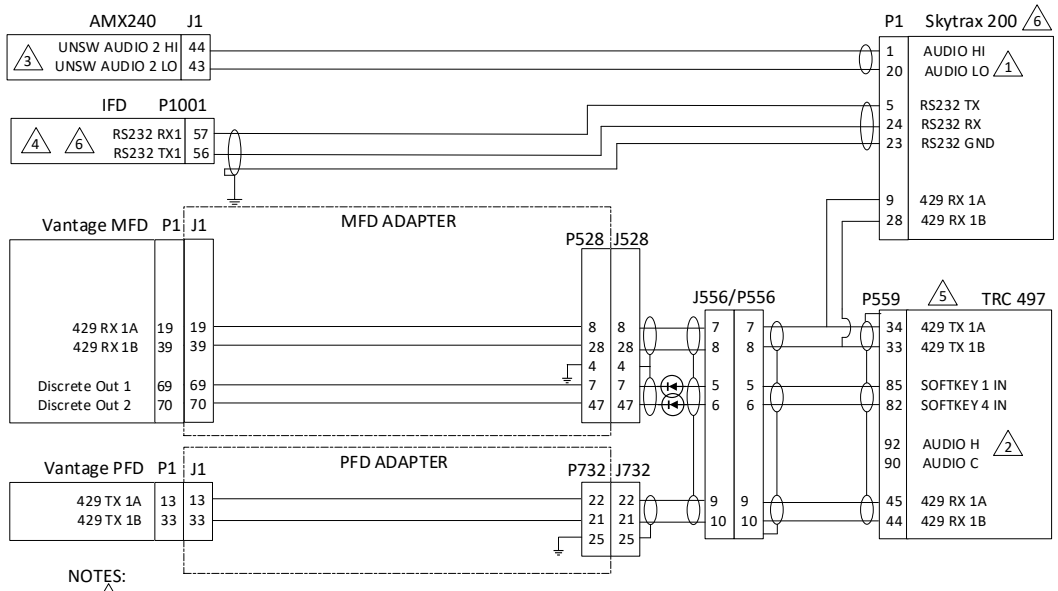
NOTES:

1. AUDIO OUT FUNCTIONALITY ON THE ST200 REQUIRES SOFTWARE VERSION 530-00247-000 REV03 OR LATER
2. EXISTING AUDIO WIRING FROM THE TAS6XX WILL BE DISCONNECTED CAPPED AND STOWED
3. CONNECT TO ANY UNSWITCHED INPUT ON THE AUDIO PANEL. IF AUDIO PANEL IS NOT AN AMX240, SEE MANUFACTURER'S DOCUMENTATION FOR PIN NUMBERS AND DETAILS
4. APPROVED AIRSPEED SWITCH MAY BE USED TO PROVIDE WOW DISCRETE IN LIEU OF IFD P1001 PIN 8, MUST = LOW WHEN ON GND

VANTAGE CONFIGURATION SETTINGS:

PFD A429 OUT 1 = LOW SPEED ; PFD429
MFD A429 IN 1 = HIGH SPEED; TRAFFIC ADVISORY
MFD RS232 RX4 = HS CAPSTONE WX

Figure D-19: Vantage12 Skytrax200+TAS6XX Hybridized Traffic Interface



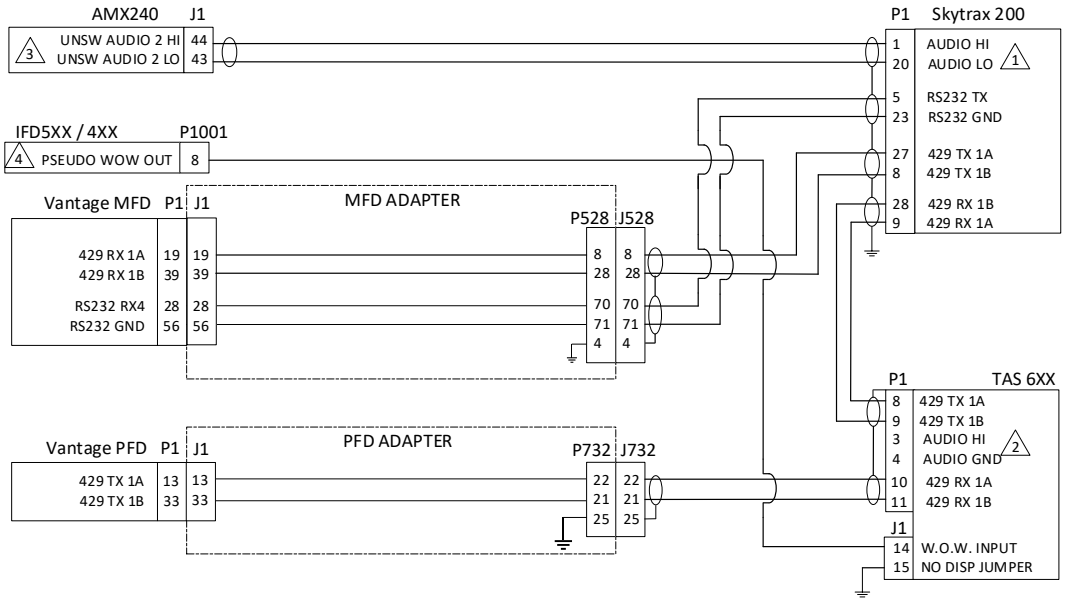
NOTES:

1. AUDIO OUT FUNCTIONALITY ON THE ST200 REQUIRES SOFTWARE VERSION 530-00247-000 REV03 OR LATER
2. EXISTING AUDIO WIRING FROM THE TRC497 WILL BE DISCONNECTED CAPPED AND STOWED
3. CONNECT TO ANY UNSWITCHED INPUT ON THE AUDIO PANEL. IF AUDIO PANEL IS NOT AN AMX240, SEE MANUFACTURER'S DOCUMENTATION FOR PIN NUMBERS AND DETAILS
4. IT IS ACCEPTABLE TO USE ANY AVAILABLE RS-232 PORT, SEE 600-00299-000 LATEST REV FOR COMPLETE DETAILS
5. CONFIGURATION UNAVAILABLE UNTIL VANTAGE RELEASE 12.0.1.2. PRIOR TO 12.0.1.2 RELEASE, SKYWATCH BREAKER SHOULD BE PULLED AND MFD 429 IN PORT CONFIGURED TO "OFF" TO PREVENT DISSIMILAR TRAFFIC DISPLAY IN THE COCKPIT. SKYTRAX ADS-B ONLY TRAFFIC WILL BE PROVIDED ACROSS ALL DISPLAYS FROM IFD.
6. COMPLETE SKYTRAX WIRING NOT PICTURED. SEE 600-00335-000 LATEST REV FOR COMPLETE DETAILS

VANTAGE CONFIGURATION SETTINGS:
PFD A429 OUT 1 = LOW SPEED ; PFD429
MFD A429 IN 1 = HIGH SPEED; SKYWATCH STATUS 5

IFD CONFIGURATION SETTINGS:
232 RX1 = CAPSTONE HS TRFC+WX

Figure D-20: Vantage12 Skytrax200+TRC497 Hybridized Traffic/FIS-B Weather Interface



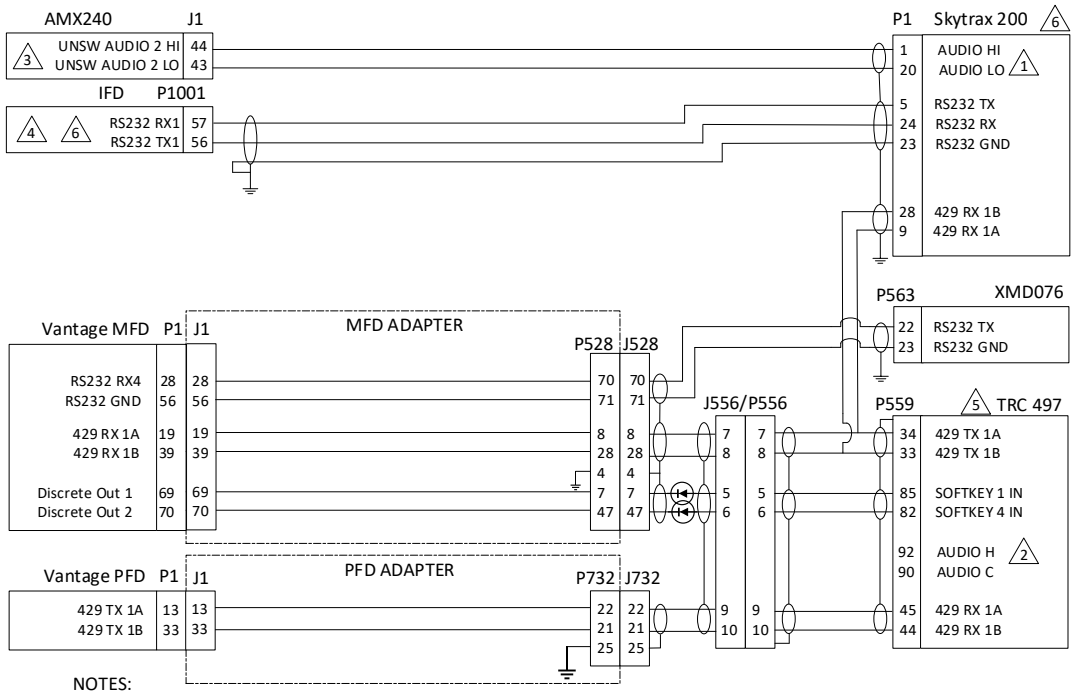
NOTES:

1. AUDIO OUT FUNCTIONALITY ON THE ST200 REQUIRES SOFTWARE VERSION 530-00247-000 REV03 OR LATER
2. EXISTING AUDIO WIRING FROM THE TAS6XX WILL BE DISCONNECTED CAPPED AND STOWED
3. CONNECT TO ANY UNSWITCHED INPUT ON THE AUDIO PANEL. IF AUDIO PANEL IS NOT AN AMX240, SEE MANUFACTURER'S DOCUMENTATION FOR PIN NUMBERS AND DETAILS
4. APPROVED AIRSPEED SWITCH MAY BE USED TO PROVIDE WOW DISCRETE IN LIEU OF IFD P1001 PIN 8, MUST = LOW WHEN ON GND
5. IT IS ACCEPTABLE TO USE ANY AVAILABLE RS-232 PORT, SEE 600-00299-000 LATEST REV FOR COMPLETE DETAILS

VANTAGE CONFIGURATION SETTINGS:

PFD A429 OUT 1 = LOW SPEED ; PFD429
MFD A429 IN 1 = HIGH SPEED; TRAFFIC ADVISORY
MFD RS232 RX4 = HS CAPSTONE WX

Figure D-21: Vantage12 Skytrax200+TAS6XX Hybridized Traffic/FIS-B Weather Interface



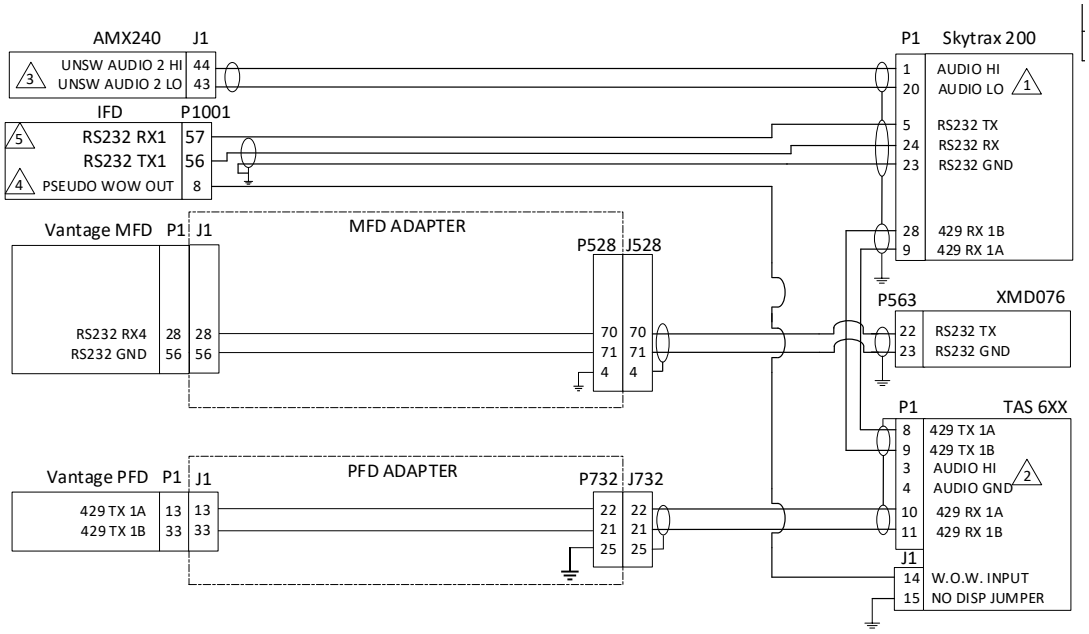
NOTES:

1. AUDIO OUT FUNCTIONALITY ON THE ST200 REQUIRES SOFTWARE VERSION 530-00247-000 REV03 OR LATER
2. EXISTING AUDIO WIRING FROM THE TRC497 WILL BE DISCONNECTED CAPPED AND STOWED
3. CONNECT TO ANY UNSWITCHED INPUT ON THE AUDIO PANEL. IF AUDIO PANEL IS NOT AN AMX240, SEE MANUFACTURER'S DOCUMENTATION FOR PIN NUMBERS AND DETAILS
4. IT IS ACCEPTABLE TO USE ANY AVAILABLE RS-232 PORT, SEE 600-00299-000 LATEST REV FOR COMPLETE DETAILS
5. CONFIGURATION UNAVAILABLE UNTIL VANTAGE RELEASE 12.0.1.2. PRIOR TO 12.0.1.2 RELEASE, SKYWATCH BREAKER SHOULD BE PULLED AND MFD 429 IN PORT CONFIGURED TO "OFF" TO PREVENT DISSIMILAR TRAFFIC DISPLAY IN THE COCKPIT. SKYTRAX ADS-B ONLY TRAFFIC WILL BE PROVIDED ACROSS ALL DISPLAYS FROM IFD.
6. COMPLETE SKYTRAX WIRING NOT PICTURED. SEE 600-00335-000 LATEST REV FOR COMPLETE DETAILS

VANTAGE CONFIGURATION SETTINGS:
PFD A429 OUT 1 = LOW SPEED ; PFD429
MFD A429 IN 1 = HIGH SPEED; SKYWATCH STATUS 5
MFD RS232 RX4 = XMD076

IFD CONFIGURATION SETTINGS:
232 RX1 = CAPSTONE HS TRFC+WX

Figure D-22: Vantage12 Skytrax200+TRC497 Hybridized Traffic/XM+FIS-B Weather Interface



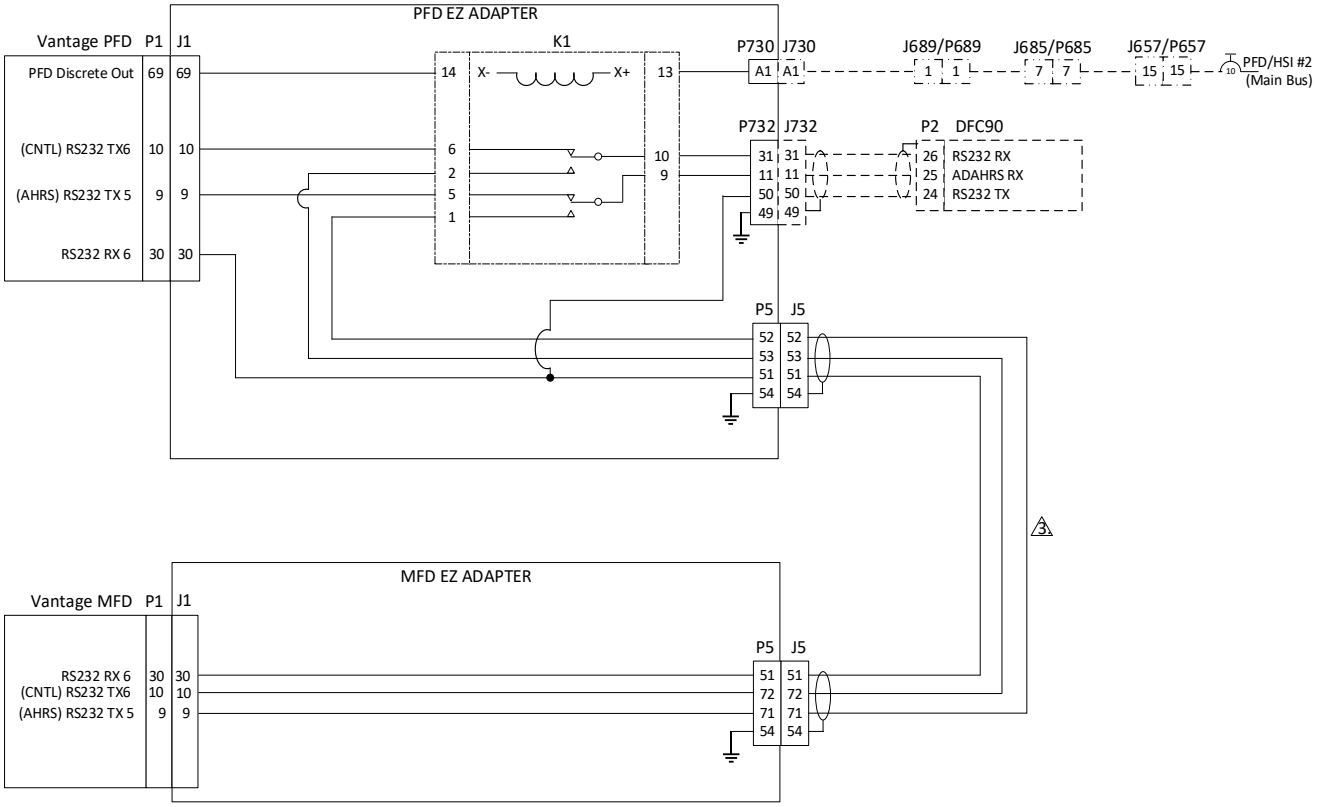
NOTES:

1. AUDIO OUT FUNCTIONALITY ON THE ST200 REQUIRES SOFTWARE VERSION 530-00247-000 REV03 OR LATER
2. EXISTING AUDIO WIRING FROM THE TAS6XX WILL BE DISCONNECTED CAPPED AND STOWED
3. CONNECT TO ANY UNSWITCHED INPUT ON THE AUDIO PANEL. IF AUDIO PANEL IS NOT AN AMX240, SEE MANUFACTURER'S DOCUMENTATION FOR PIN NUMBERS AND DETAILS
4. APPROVED AIRSPEED SWITCH MAY BE USED TO PROVIDE WOW DISCRETE IN LIEU OF IFD P1001 PIN 8, MUST = LOW WHEN ON GND
5. IT IS ACCEPTABLE TO USE ANY AVAILABLE RS-232 PORT, SEE 600-00299-000 LATEST REV FOR COMPLETE DETAILS

VANTAGE CONFIGURATION SETTINGS:
PFD A429 OUT 1 = LOW SPEED ; PFD429
MFD RS232 RX4 = XMD-076

IFD CONFIGURATION SETTINGS:
232 RX1 = CAPSTONE HS TRFC+WX

Figure D-23: Vantage12 Skytrax200+TAS6XX Hybridized Traffic/XM+FIS-B Weather Interface



NOTES:

1. - - - - - - - Denotes existing wires / connectors and equipment
2. Configurations:
   PFD:
   RS232 OUT 5 = ADAHRS; RS232 IN 5 = OFF
   RS232 OUT 6 = DFC90; RS232 IN 6 = DFC90
   MFD:
   RS232 OUT 5 = ADAHRS; RS232 IN 5 = OFF
   RS232 OUT 6 = DFC90; RS232 IN 6 = DFC90

3. Wiring is part of EZ Adapter Wiring Harness P/N: 100-00560-000

Figure D-24: Vantage12 DFC90 Interface