

Cirrus SR2X: Installing Vantage 12

IMPORTANT — READ BEFORE PROCEEDING

This document is a guideline and has not been approved by any regulatory authority. It is intended as a planning aid to help installers navigate the full installation documentation — it does not replace, supersede, or substitute for any approved installation manual, service bulletin, or regulatory requirement.

All installation work must be performed in accordance with the approved installation manuals for the referenced products. References to those sections are included against the Installation Manual Revisions listed in the Manuals Section. In any case of conflict or ambiguity between this guide and an approved document, the approved document governs.

This guide does not capture all requirements, limitations, or safety-critical steps. Installers are reminded that responsibility for airworthiness rests with the certificated individual or repair station performing the installation.

This guide outlines the steps to install Vantage 12 in a Cirrus SR20 or SR22 G1, G2, or G3 aircraft. Check the Avidyne website to ensure you have the latest revision of this document.

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1. Introduction

This guide describes the steps required to install Vantage 12 in an Entegra-equipped Cirrus SR20 or SR22 aircraft.

2. Parts and Documents Needed

Here is the list of products, manuals, and documents needed to complete and log the installation. Note that the hyperlinks require you to be logged into the [Avidyne Dealer portal](#) to view them.

Products: 850-00212-000 Vantage 12 System
850-00325-000 Vantage EZ Adapters
850-00326-000 Vantage Dealer Installation kit (reusable for future installations)
850-00327-00X Vantage Instrument Panel metal panel (SR2X model-specific)
110-00339-0XX Vantage Instrument Panel graphics overlay (SR2X model-specific)
850-00212-001 Redundant Magnetometer and ADC (optional)

Manuals: [Cirrus Vantage Quoting & Installation Planning Guide](#)
[Vantage 12 System Design Guide](#)
[Vantage Panel and Overlays](#)
[Vantage 12 Installation Checklist](#)
[600-00744-000 Vantage Installation Manual](#)
[600-00745-000 Vantage 12 Pilots Guide](#)
[600-00361-000 Vantage 12 Quick Reference Guide](#)

Software: [10.3.2.2 IFD Software Update](#) (or later version - may already be installed)
[Jeppesen Database Update Instructions](#)

Documents: [Vantage 12 STC](#)

3. Planning Ahead

Installation Time

If this is your **first Vantage installation**, and the aircraft already has a DFC90 and a pair of IFDs (or you are replacing Garmin 430Ws with IFD440s), you should be able to complete the installation in under **40 hours**. Dealers who have done a couple are quoting as little as **24 hours** of installation

time. Installing an IFD540 with a remote transponder at the same time adds another 16 hours to the installation time, as the center console will already be removed as part of the Vantage installation.

If the plane already has the Vantage Readiness Kit installed, installation can be completed in as little as 16 hours, as the center console does not need to be removed.

Installing the Magnetometer and ADC Redundancy Kit adds 6 hours to the installation time. Most of this additional time is installing the wing magnetometer wiring.

Selecting the Right Instrument Panel Layout

To select the correct Instrument Panel metal panel and overlay for the Vantage installation, start with a photo of each end of the aircraft's Instrument Panel. There are four different metal panel options and 17 overlay options. The primary difference is between SIU aircraft that have round engine gauges on the Instrument Panel and DAU aircraft that have a glove box on the right. The other differences relate to the various Cirrus and third-party air conditioning systems. The document [Vantage Panel and Overlays](#) leads you through the selection process.

Base Configuration

To install Vantage 12, the aircraft needs:

An Entegra PFD and MFD

This guide applies to SR aircraft with both an Entegra PFD and MFD. NexAir has successfully installed Vantage 12 in an early six-pack Cirrus using STC SA03527AT from Southern Star Avionics (which allows an Entegra PFD to be installed in a six-pack aircraft) as a precursor to the Vantage 12 STC.

Two Avidyne IFDs

The aircraft must have any combination of 2 IFDs.

DFC90 or DFC110

Either a DFC110 (any software version) or a DFC90 Autopilot with Rev 03 software is required (Figure 1 - see section 2.3 of the Vantage IM). If the DFC90 has an earlier software revision, you need to send the DFC90 to Avidyne for a no-cost software update. Note that this round trip takes about a week, so is best done prior to starting the installation.

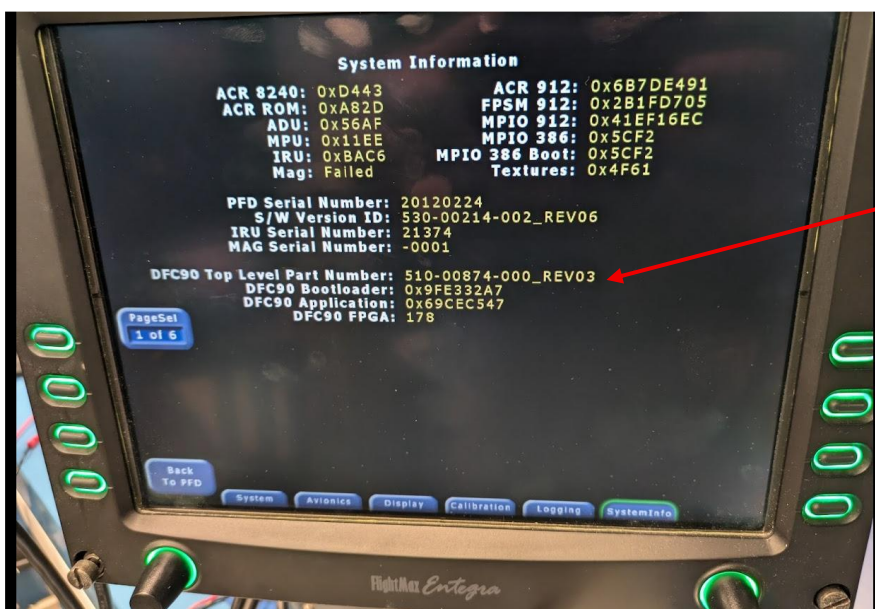


Figure 1: DFC90 Software Version

In-Spec Autopilot Servos

We have discovered that about 5-10% of Cirrus G1-G3 aircraft have issues with their roll or pitch trim systems that may be accentuated by the Vantage system. Common issues include worn roll trim motors, binding roll and pitch trim spring cartridges, and incorrectly set roll trim end stops. You can do a preliminary test of the roll and pitch spring cartridges by manually deflecting the ailerons and elevator from a neutral position while on the ground. They should rapidly and smoothly return to their center position from each direction of deflection. The Vantage Dealer kit includes a tool (Figure 2) to check the motor performance. [This COPA Post](#) describe some easily performed tests. You should **correct any deficiencies** prior to beginning the Vantage installation.



Figure 2: Roll and Pitch Trim Motor Tester

4. Log Your Settings

Record the settings and software versions on both IFDs, the Entegra PFD, and the Entegra MFD. Make sure you record all the settings pages.

Also note the other devices installed in the aircraft and how they connect to the IFDs and MFD. These include items such as:

- Skywatch 497 or other active traffic system
- Garmin 335 or 345 transponder with ADS-B out and FIS-B traffic and weather
- WX-500 Stormscope
- KGP560 Terrain alerting system
- XM weather receiver

5. Updating your IFDs

Both IFDs must be updated to version 10.3.2.2 or later. If the IFD is currently a SW release prior to 10.2.0.0A, **DO NOT PROCEED**. Contact Avidyne Technical Support for the proper upgrade steps.

Carefully follow the [IFD Update Instructions](#) [SERVICE BULLETIN](#). Steps include connecting ground power and updating only one IFD at a time. Make sure that the IFD not being upgraded is powered off during the entire update process. Each IFD update can take over an hour and involves multiple device reboots. If, after 2 hours, the IFD has not finished the update, power it down and reboot it. Often the update has completed successfully despite not showing a message as such.

This update should be done prior to beginning the Vantage installation. Doing it early allows time to resolve any issues you experienced with the IFD updates. Another option is you can send the IFDs to Avidyne and get a free software update.

6. Disassembly

The existing instrument panel needs to be replaced, and unused electronics should be removed. The new Instrument Panel is the same size as the existing one, so no changes are required to the plastic console pieces. Section 4.1 of the Vantage IM describes the removal process. Here is a summary:

1. Disconnect the battery.
2. Remove the glare shield and the windshield air diffuser.

3. Remove the Entegra PFD and MFD. Yellow tag them **Serviceable**. You will need to return them in the shipping boxes that come with the Vantage 12 displays.
4. Remove the Instrument Panel. The ignition switch, annunciator panel, engine gauges / glovebox, and any other aftermarket equipment will be moved to the new instrument panel. Bag and label the **three screw spacers** that came off the lower three screws on each side of the Instrument Panel. They are **different lengths**, so make sure and label which side they came off.
5. Remove the STEC flight director switches and harness (if installed).
6. Remove the KGP560 unit, annunciator panel, and wiring harness (if installed). This functionality is redundant with the Vantage FLTA ability. The KGP controller is most likely attached to the pilot's side kick panel upper metal plate.
7. Remove the **blind turn coordinator**. It is above the copilot side kickplate. It is not required with Vantage 12. Bag the connector.

7. Remove the Center Rack

If the Readiness Ethernet dongle has already been installed, the center console rack does not need to be removed. If the Readiness dongle has not been previously installed, **remove the center console rack** per the instructions in the Cirrus Maintenance Manual Chapter 25-10 / Section 2 / Paragraph V (Radio Module Assembly). **Install** the Vantage **Ethernet harness** on both IFDs.

If you are removing the center rack to install the Ethernet cables, **consider** also doing the following:

Audio Panel Monitor Function:

The AMX240 and some other audio panels support **monitoring the standby frequencies** of the radios. If the aircraft audio panel has this ability, add the appropriate wires from the IFDs (Table 1).

Table 1: Audio Panel Monitor and FLTA Wiring

	AMX240 J1	IFD #1 P1006	
Mon 1 hi	7	7	Com Mon Hi
Mon 1 lo	8	34	Com Mon Lo
	AMX240 J1	IFD #2 P1006	
Mon 2 hi	21	7	Com Mon Hi
Mon 2 lo	22	34	Com Mon Lo
	AMX240 J1	IFD #1 P1001	
Unswitched #3 hi	29	52	FLTA audio hi
Unswitched lo	32	53	FLTA audio lo

ADSB-In Traffic and Weather

HS Capstone Traffic and Weather should be wired into only **one of the IFDs** using RS232. That IFD will then share the data with the other IFD and both Vantage displays over the ethernet bus. Even if wired, you should not configure an RS232 port to receive traffic and weather on any other device other than a single IFD.

IFD Audible Terrain Alerting

To get **audible terrain alerts**, Top of Descent and other alerts from the IFD, the IFD audio alert output needs to be connected to the audio panel (Table 1).

DFC90 Tray

If the original STEC-55X tray (Figure 3) was used when the DFC-90 was installed, you should replace it with the Avidyne DFC90 tray (PN 850-00213-000).

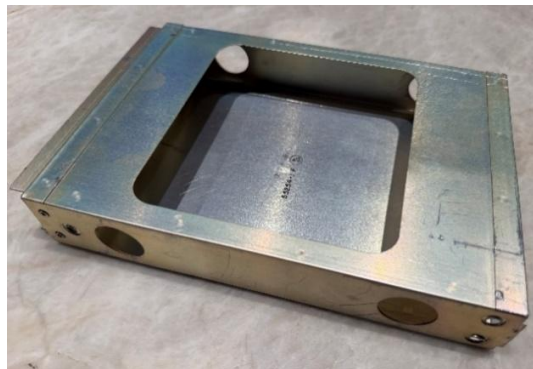


Figure 3: STEC 55X Tray

DFC90 Flap Connection:

You should add the **DFC90 flap wiring connection** if it was not installed with the DFC90. On many installs, dealers chose to do a slide in replacement of the STEC-55X with the DFC90 to minimize cost. While this works, adding the flap connection allows the DFC90 to issue flap overspeed warnings and to use flap settings as part of its flight envelope protection logic. Included with the Vantage Readiness Kit is a flap connection module that simplifies connection to the flap switch. If you need a module, contact Avidyne support.

If you don't have a flap module, instructions on how to add the flap connection are on page 4 of the [DFC Installation Diagrams for Cirrus 2X](#) on the Avidyne Dealer portal.

Cooling

Both IFDs need **direct cooling** to operate correctly. A **3 port avionics fan** feeding the cooling ports on the IFD backplanes through 5/8" SCAT tubing ([Spruce Part# 05-29901-5](#)) and connected with 0.59-0.67 plastic hose clamps ([Spruce Part# 05-02705](#)) is an ideal solution. Note that, while it has a small vent port, the DFC90 does not require external cooling.

8. Install the Second Magnetometer (Optional)

If your installation includes a redundant ADC and magnetometer, this is the time to install the second magnetometer in the right wing (Figure 3). See Section 4.4 of the IM. Note that the **shield** from the magnetometer harness can connect to either **pin E** or the metal shell on the round magnetometer connector P2734 (Figure 4).

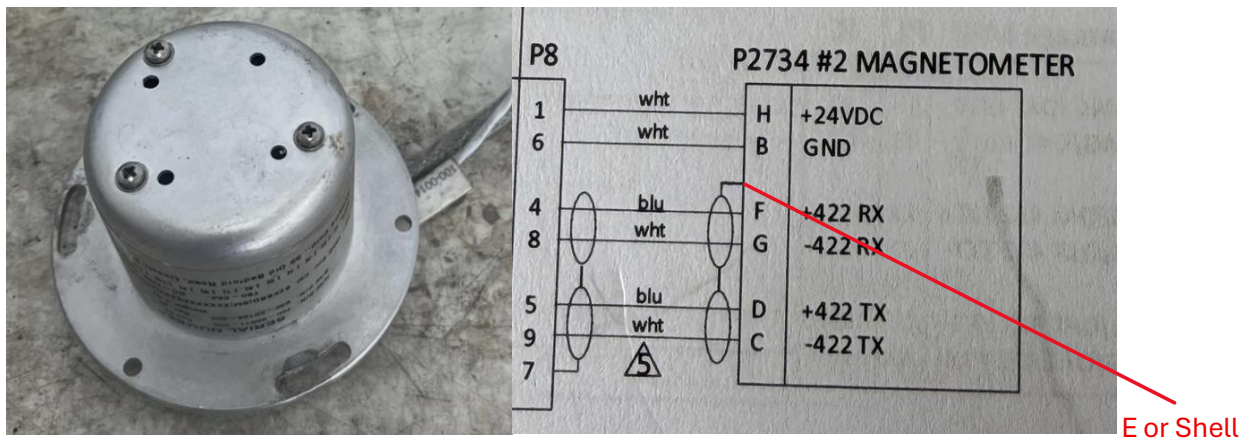


Figure 4: Cirrus Magnetometer and Shield to Pin E

9. Add Pitot Static Connectors

Modify the Pitot and Static connections that were removed from the Entegra PFD so they can connect to the Vantage ADC (IM 4.2.5). Two metal fittings are provided that connect to the Pitot and Static ports respectively (Figure 5). They are **different sizes** to ensure they cannot be installed incorrectly. Check the fittings on the ADC before finalizing the connections. Adjust the tubing so that they can easily connect to the ADC. If a second ADC is being installed, tee into the lines using the supplied connectors and add the supplied connections for the second ADC.



Figure 5: Pitot Static Connectors

10. Install the New Wiring Harness

Lay the new wiring harness into the space behind the PFD and MFD. Position it so that the connectors on it can easily reach the new PFD and MFD, and that it doesn't interfere with the pitot and static lines for the new ADC(s).

11. Wire Up Power to the ADC(s)

Section 3.5.3 of the IM describes how to use the two power connections at **P/J685** (Figure 6 - at the back of the wiring harness on the left of the instrument panel rear space) that went to the now-removed blind turn coordinator to power the main and optional second ADCs. Even if you are not installing the second ADC, you should **wire both ADC power wires**. Male pins to connect to the #1 (MFD ADC #2) and #11 (PFD ADC #1) pins on the J685 side of the connector (Figure 7) are included in the Vantage installation kit (they are in the **wiring harness plastic bag**), as are new circuit breaker labels. Use a **DRK124** (M81969/20-01) tool to remove the pins. If you don't have this pin removal tool, you can cut the wires going to pins 1 and 11 about 2" from connector J685 and butt splice them to the wires coming from the Vantage wiring harness. You will need to temporarily remove the Adel clamp immediately to the right of the connector to get enough access to splice the wires if you choose this approach. When you have finished connecting the wires, install the **new ADC labels** on the two Turn Coordinator circuit breakers.



Figure 6: P/J685 Location Left Side of Instrument Panel



Figure 7: J685 Pins to Remove – 1 top right, 11 middle lower left

12. Assemble the New Instrument Panel

Install the corner nut plates for each of the Vantage displays on the new Instrument Panel (IM 4.2.2.2). Once the nut plates are installed, apply the Instrument Panel vinyl overlay using the supplied alignment pins (Figure 8).

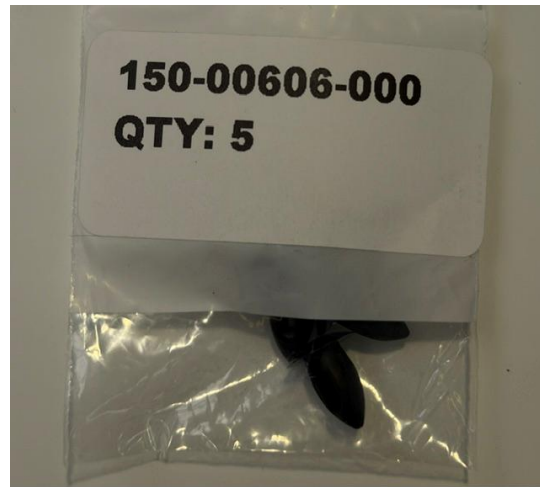


Figure 8: Overlay Alignment Pins

13. Install the New Instrument Panel

Install the new Instrument Panel using the supplied screws and plastic washers (IM 4.2.3) and the **screw spacers** from when you removed the Instrument Panel in Step 6. Install the components that were retained when the old Instrument Panel was removed. These items include:

- Ignition switch
- Annunciator panel
- Glovebox or round engine gauges
- Vent system control knobs and AC switches

14 . Assemble the Vantage PFD and MFD

EZ Adapters

Per Section 4.2.1 of the IM, use the supplied screws and spacers to install the EZ adapters (Figure 9) on the back of the MFD and PFD. Note that the PFD and MFD, while they look the same from the back, are **different**. The PFD lacks the 3 rocker switches that are below the display on the MFD. The adapter with the four connectors and the relay socket goes on the PFD. The EZ adapters let you use all the original Entegra connectors without modification.

Dip Switches

Per IM 4.6, the four **DIP Switches** in the lower left corner of both Adapters should all be set **UP** if the aircraft has a **single** Mag/ADC, and all **DOWN** if the aircraft has the Mag Redundancy Kit (Figure 9).

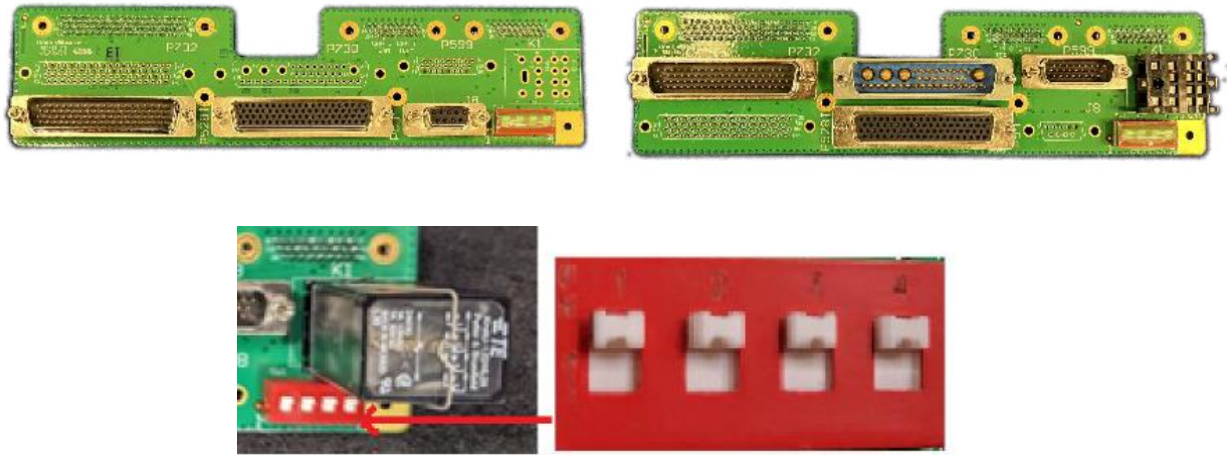


Figure 9: EZ Adapters & Dip Switches in Up Position for Single Mag/ADC

ADC Installation

Use the supplied hardware to install the **ADC** on the back of the PFD (Figure 10). If the redundancy kit was purchased, install the second ADC on the back of the MFD.

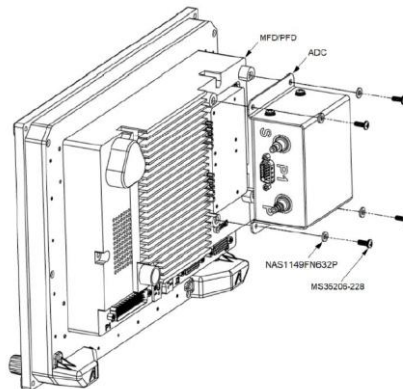


Figure 10: ADC Installation

PFD Failsafe Relay

Per IM 4.6, Remove the **PFD Failsafe Relay** from its socket on the rail below the PFD location (Figure 11). Install it in the relay socket on the PFD EZ adapter utilizing the retaining spring that was on the original socket.



Figure 11: PFD Failsafe Relay

15. Install the Center Console (if Removed)

Re-install the center console rack. Many dealers add **short extensions** to the IFD BNC GPS and Comm antenna connections to make it easier to install and remove the center console rack. Two 6" BNC Male Angle to BNC Female and two 12" BNC Male Angle to BNC Female cables work well for extending the IFD connections outside the rack.

16. Bend Down the Right Lip Behind the MFD

If your aircraft has it, bend the vertical aluminum tab behind the MFD down so that it doesn't catch on the MFD EZ adapter (Figure 12). Use large Knipex pliers or the like to bend it backwards such that it doesn't protrude above the projection of the MFD opening.

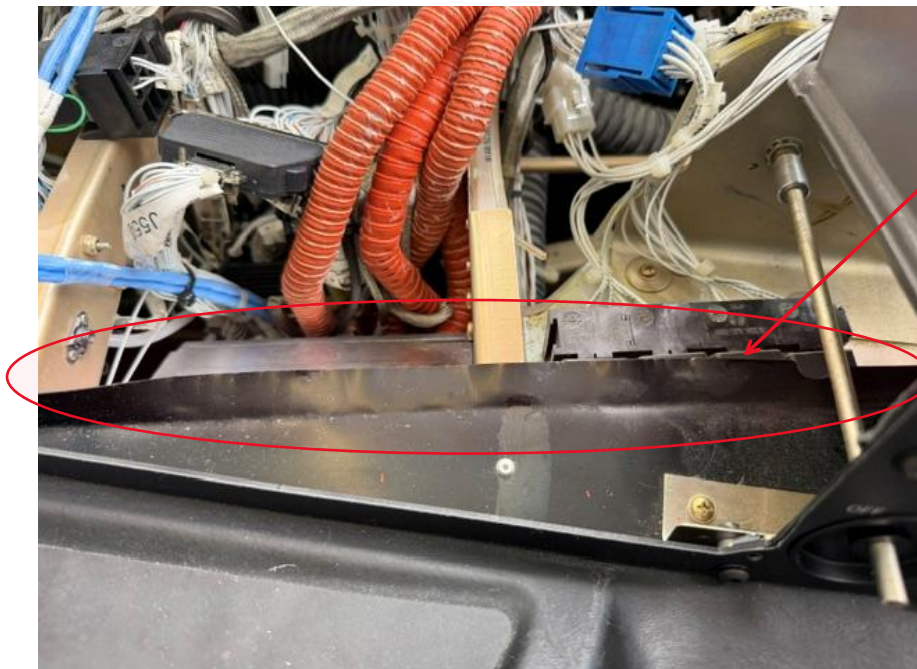


Figure 12: Bent Tab Behind MFD As Required

17. Install the Vantage Displays

Connect the cables up to the Vantage displays, connect the Pitot/Static lines, and install the Vantage PFD and MFD in the new Instrument Panel (Figure 13).

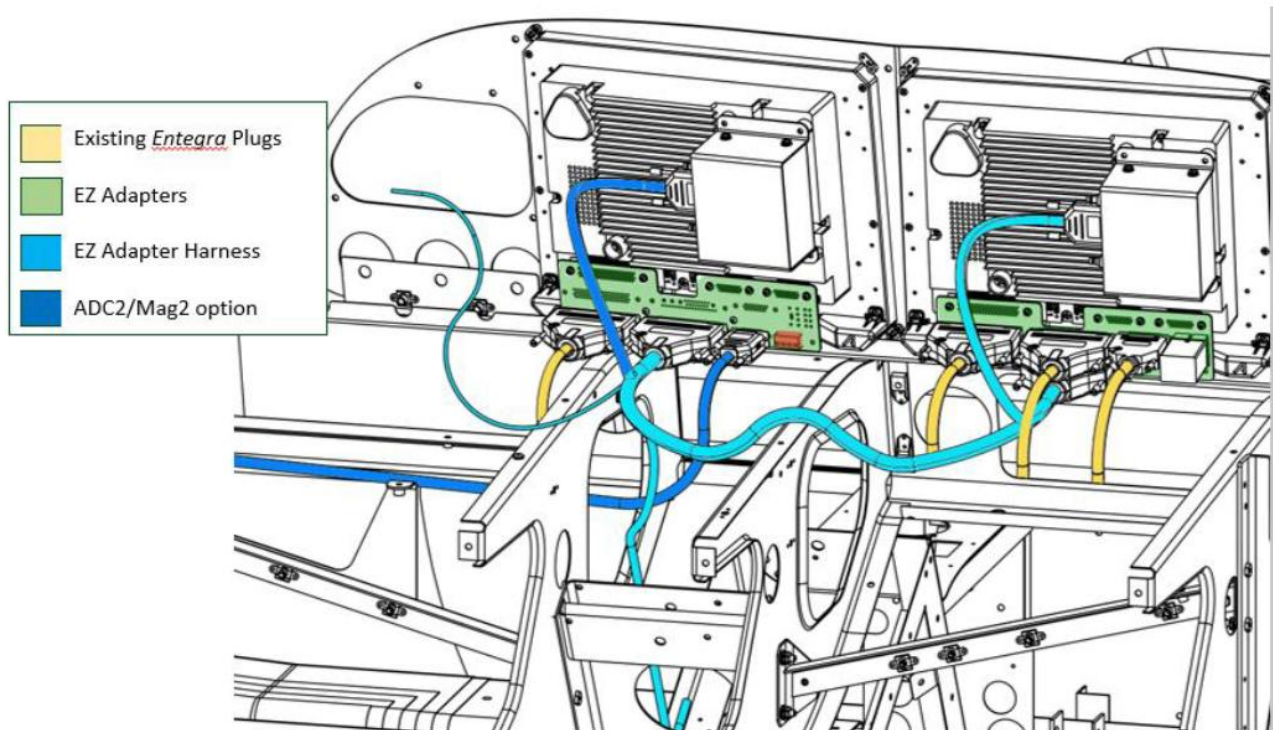


Figure 13: Vantage PFD and MFD Wire Connections

PFD

There are 3 Entegra factory connectors on SIU aircraft and 4 connectors on DAU aircraft that connect to the EZ adapter on the back of the PFD. Note that connector **P733 is not used** with the Vantage PFD. P733 provided analog connections to the STEC 55X autopilot. The DFC90 does not use the analog connections. P733 should be bagged and stowed.

There are two Vantage wiring harness connectors that go to the PFD. One goes to the EZ adapter, the other to the ADC.

Make sure not to **unseat** the PFD failsafe relay when doing the installation. If you do you will get an Autopilot failure message when you start the system.

MFD

There is one Entegra factory connector and one Vantage wiring harness connector that go to the MFD EZ Adapter. If your installation has a second redundant ADC on the back of the MFD, connect the Vantage harness connector to it.

18. Configure the IFDs

IM 5.1.3-5.1.6 describes the IFD setting changes for Vantage. Go into **configuration mode** on both **IFDs**. Go to the System Type Page and select **Vantage** (Figure 14). This will enable the IFD ethernet connections to the Vantage displays.

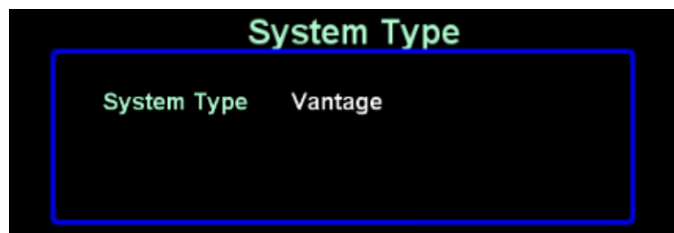


Figure 14: IFD System Type

Note that, to change RS232 CHNL 3, which is used for CrossSync, you must change the System Type back to **Legacy**. When the System Type is Vantage, CHNL 3 is not editable to prevent errant setting of its value.

HS Capstone traffic and weather RS232 input should only be configured on **one IFD**. Turn the input off on the other IFD and the MFD if they have it wired. The IFDs and the Vantage displays will **share** the traffic and weather information over the crosslink connection and the **ethernet** bus.

WX-500 data is **not shared** amongst the devices, so it's RS232 line should be configured for each device that it is wired to.

On the IFD Main System Config page, make sure **RF Legs** and **Enroute VNAV** are **Enabled** (Figure 15).

Main System Config			
Fuel Type	AV Gas	Joystick Input	Disabled
GPS Select	Auto	Appr Roll Steer	Enabled
Airframe	Fixed-Wing	Nav Radio Active	Enabled
Multi-Engine	Disabled	Charts	Enabled
Tail Number	E2TE	BEW	15000 lb.
External TAWS	No	MTOW	25000 lb.
WOW Input (Helo)	No	MLW	20000 lb.
Checklists	Enabled	RF Legs	Enabled
TIS-B Annunciation	Enabled	Enroute VNAV	Enabled

Figure 15: IFD Main System Config

19. Configure the PFD and MFD

To get into **configuration mode** on the displays, follow the instructions in Section 5.2 of the IM. On the PFD, hold the first and third buttons on the left side of the display until the PFD restarts in maintenance mode. Select the Config tab. The MFD boots into maintenance mode like an IFD.

Many of the Vantage basic settings come pre-configured from the factory.

When making changes to the PFD and MFD, you should have both displays in **Configuration Mode** on the **same** configuration screen. That makes comparing settings much easier.

Note that you must immediately **power cycle** the display if you make any changes to the **Serial Config page**. You need to do this while you are still on the Serial Config page. If you don't, the changes will **not be retained**. This is because changes to this Config page affect other Config pages, so a restart is required to update the affected Config pages.

CAN Bus Configuration

The **PFD** CAN BUS CONFIGURATION (IM 5.3.2) is the **same** whether you have the ADC/Magnetometer Redundancy Kit or not (Figure 16).

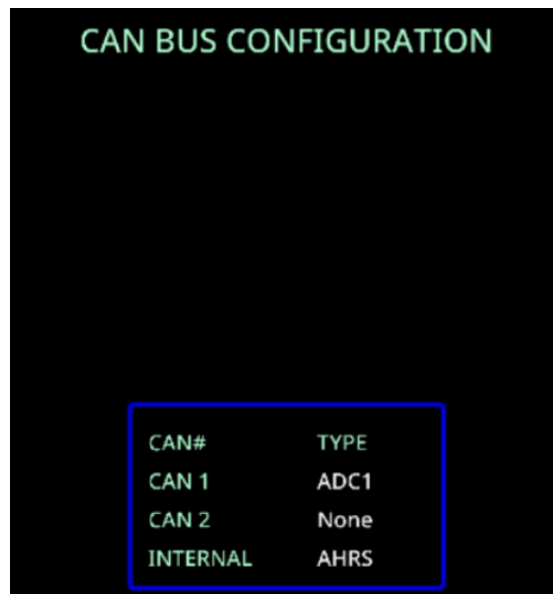


Figure 16: PFD CAN Bus Configuration

The **MFD** CAN Bus Configuration (IM 5.4.1) is **different** if you have the Redundancy Kit. Figure 17 left image is for an aircraft without redundancy. Figure 17 right image is one with the redundancy kit.

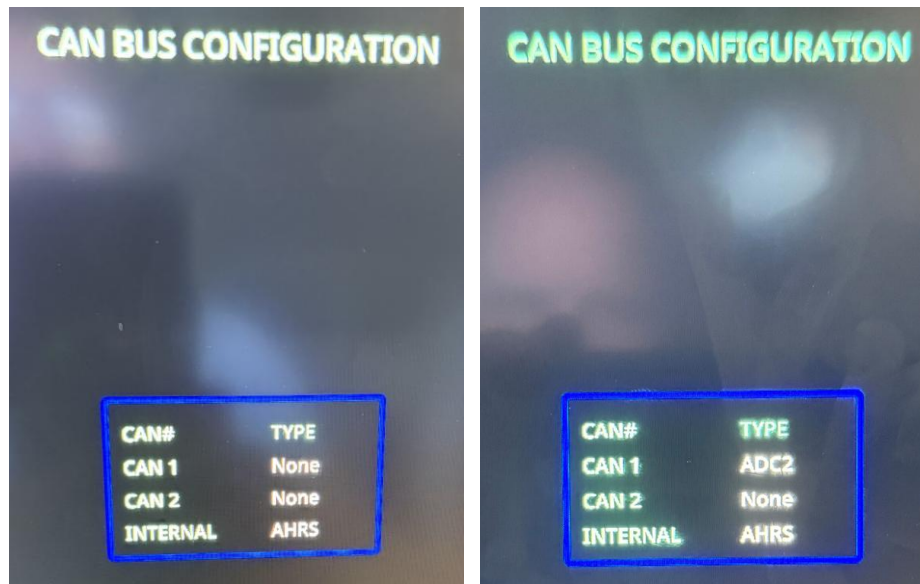


Figure 17: MFD CAN Bus Configuration Without and With Redundancy

Main ARINC 429 Config

For the PFD, set the Main ARINC429 Config to the values in the left image of Figure 18 (IM 5.3.3). For the MFD, set them to the values on the right of Figure 18 (IM 5.4.2).

You should **not connect traffic** directly to the MFD. Rather, traffic should be connected to either (but **not both**) of the IFDs, typically via RS232. The IFD that has the traffic/weather connection will share the traffic and ADS-B weather with the Vantage displays and the other IFD via the Ethernet connection. If traffic is already connected to the MFD and you have added a traffic connection to one of the IFDs, do not configure the traffic input from it on the MFD.

If you are not removing the center console as part of the Vantage upgrade and traffic is not already wired to an IFD, you can configure traffic on the MFD. You will just not see it on the IFDs. Make a note to move the traffic connection to one of the IFDs when you next remove the center console.



Figure 18: PFD and MFD ARINC 429 Config

PFD Serial Configuration

The PFD Serial Configuration for an aircraft with a **DAU** and the **Mag/ADC redundancy kit** should be set to the values in Figure 19 (IM 5.3.4).

If the aircraft has a DAU but **doesn't have redundancy**, set the CHNL 1 values to Off / Off (Figure 19A).

Set the PFD CHNL 2 Input to **Off** if you have an **SIU** (round engine gauges to right of MFD). Set it to DAU pre-G3 if the aircraft is a G2 with a DAU (glove box). If a G3 set it to DAU.

Note CHNL 7 & 8 are RS422.

Note that you must **power cycle** the display (PFD or MFD) after making any changes to the Serial Config page. Do this before changing to any other Config page.

Vantage Serial Config			
	Input	Output	Port Type
CHNL 1	AviADC	AviADC	232
CHNL 2	Moritz DAU	Off	232
CHNL 3	Off	Off	232
CHNL 4	Off	Off	232
CHNL 5	Off	ADAHRS	232
CHNL 6	DFC	DFC	232
CHNL 7	N/A	Mag	422
CHNL 8	Mag	N/A	422

Figure 19: PFD Serial Configuration with Redundancy

Vantage Serial Config			
	Input	Output	Port Type
CHNL 1	Off	Off	232
CHNL 2	Moritz DAU	Off	232
CHNL 3	Off	Off	232
CHNL 4	Off	Off	232
CHNL 5	Off	ADAHRS	232
CHNL 6	DFC	DFC	232
CHNL 7	N/A	Mag	422
CHNL 8	Mag	N/A	422

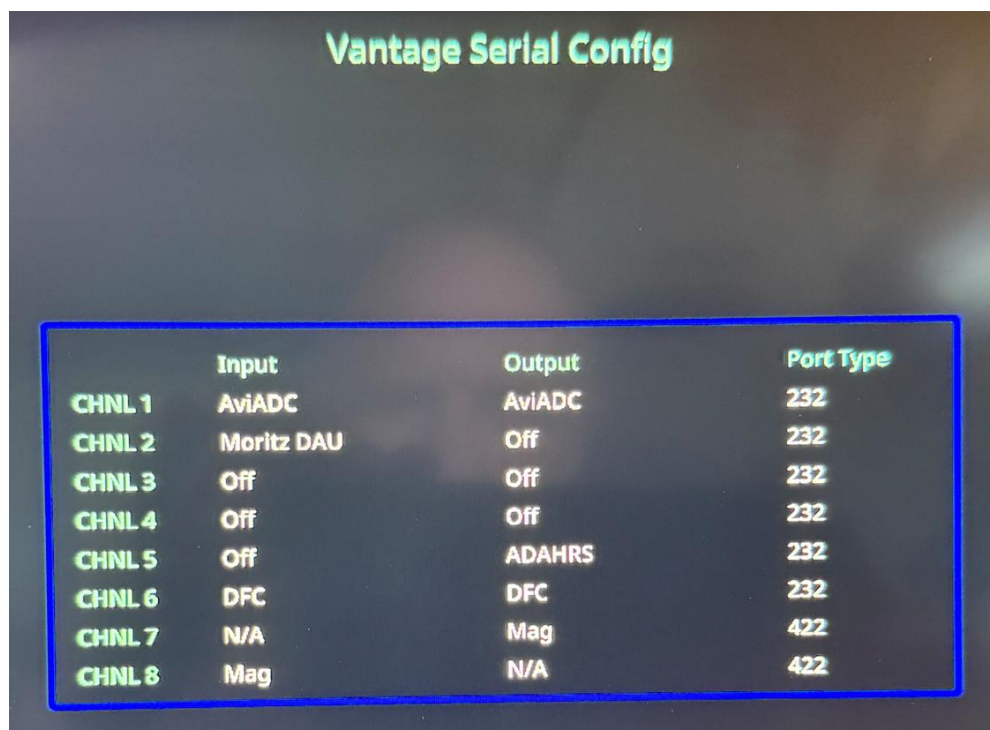
Figure19A: PFD Serial Configuration without Redundancy

MFD Serial Configuration

The MFD Serial Config (IM 5.4.3) will change depending on whether you have the Mag/ADC redundancy kit, XM Weather, WX-500, SIU vs DAU, and Traffic wired to the MFD. As mentioned earlier, the preferred method is to wire **HS Capstone traffic and weather to the IFD** via RS232, not directly to the MFD. But if you don't have the center console out allowing the traffic and weather RS232 wires to be added to the IFD, you can configure them on the MFD via RS232. Note that the traffic and weather will not be shared with the IFDs if configured this way. Traffic and weather sharing only goes from one IFD to the other and to the Vantage displays, and not from the Vantage displays back to the IFDs.

If present, XM Weather and the WX-500 Stormscope should **only** be wired to and configured on the MFD. For weather, the Vantage display will only display either XM Weather or FIS-B weather, but not both. If the aircraft has XM and FIS-B weather, the ideal setup is to wire/show FIS-B weather on the IFDs and XM Weather on the MFD.

Figure 20 shows a Config for an aircraft **with** the Mag/ADC Redundancy kit, **without** any accessory devices connected to the MFD, and with either a SIU or a DAU. Set CHNL 2 Input to DAU pre-G3 if the aircraft is a G1 or G2.



	Input	Output	Port Type
CHNL 1	AviADC	AviADC	232
CHNL 2	Moritz DAU	Off	232
CHNL 3	Off	Off	232
CHNL 4	Off	Off	232
CHNL 5	Off	ADAHRS	232
CHNL 6	DFC	DFC	232
CHNL 7	N/A	Mag	422
CHNL 8	Mag	N/A	422

Figure 20: Basic MFD Serial Config with Mag/ADC Redundancy

If this aircraft did **not have** the **Mag/ADC redundancy kit**, you would set **CHNL 7** to OFF on the Input and N/A for the Output (Figure 22). Note that this is **different** than the IM specifies.

Figure 21 is an example of an aircraft with a DAU, redundancy, a Stormscope on port 3, and traffic on port 4. Note that the traffic should only be configured on the MFD if you were unable to wire and configure it on one of the IFDs.

Figure 22 shows an aircraft with a DAU and no Mag/ADC redundancy.

Vantage Serial Config

	Input	Output	Port Type
CHNL 1	AviADC	AviADC	232
CHNL 2	Moritz DAU	Off	232
CHNL 3	WX-500	Off	232
CHNL 4	Capstone HS Trfc+Wx	Off	232
CHNL 5	Off	ADAHRS	232
CHNL 6	DFC	DFC	232
CHNL 7	N/A	Mag	422
CHNL 8	Mag	N/A	422

Figure 21: MFD with DAU, Stormscope, Traffic and Redundancy

	Input	Output	Port Type
CHNL 1	AviADC	AviADC	232
CHNL 2	Moritz DAU	Off	232
CHNL 3	Off	Off	232
CHNL 4	Off	Off	232
CHNL 5	Off	ADAHRS	232
CHNL 6	DFC	DFC	232
CHNL 7	Off	N/A	422
CHNL 8	Mag	N/A	422

Figure 22: MFD with no Redundancy

DFC90 Configuration

The DFC90 settings depend on whether you have a SR20 or an SR22. For an SR20, use the settings in Figure 23 left side. For an SR22, use the settings in Figure 23 right side. The only differences are the **first two values**. Note that the Flap extension speed should be 119 in both images.

DFC Config		DFC Config	
Configuration		Configuration	
Pitch Servo	0	Pitch Servo	1
Pitch Linkage	0	Pitch Linkage	1
Pitch Trim Servo	0	Pitch Trim Servo	0
Pitch Trim Linkage	0	Pitch Trim Linkage	0
Roll Servo	0	Roll Servo	0
Roll Linkage	0	Roll Linkage	0
Suppress Env. Alerts	0	Suppress Env. Alerts	0
Flap Overspeed Alert Enabled	1	Flap Overspeed Alert Enabled	1
Flap Extension Speed	120 knots	Flap Extension Speed	119 knots
Aural Alert Volume	6	Aural Alert Volume	6
Max IAS Bug	185 knots	Max IAS Bug	185 knots
Min VS Bug	-1600 FPM	Min VS Bug	-1600 FPM
Max VS Bug	1600 FPM	Max VS Bug	1600 FPM

Figure 23: DFC 90 Configuration SR20 Left SR22 Right

Determining Display Angles

Per IM 5.5 & 5.6, you need to determine the angle of inclination of the PFD and MFD from vertical with a level plane, and the angle between the displays so that the internal AHRS of each display can properly calibrate (Figure 24). This must be done for both the PFD and MFD. You will use a digital **goniometer** (part of the Vantage dealer installation kit) and a digital **inclinometer**. Note that you must **hard power cycle** both displays after this process is completed.

Measure the **Pitch** angle of each display from vertical using an **inclinometer**. Note that this measurement is from a **level aircraft**. As an alternative to leveling the aircraft, some dealers level the wingtips and measure the angle of the **door sill**, then **add this value** to the display angles and enter the total as a negative number. If the pitch angle is entered this way, the indicator on the IRU Calibration screen will indicate the door sill angle after you press Save Offsets (Figures 25 & 26).

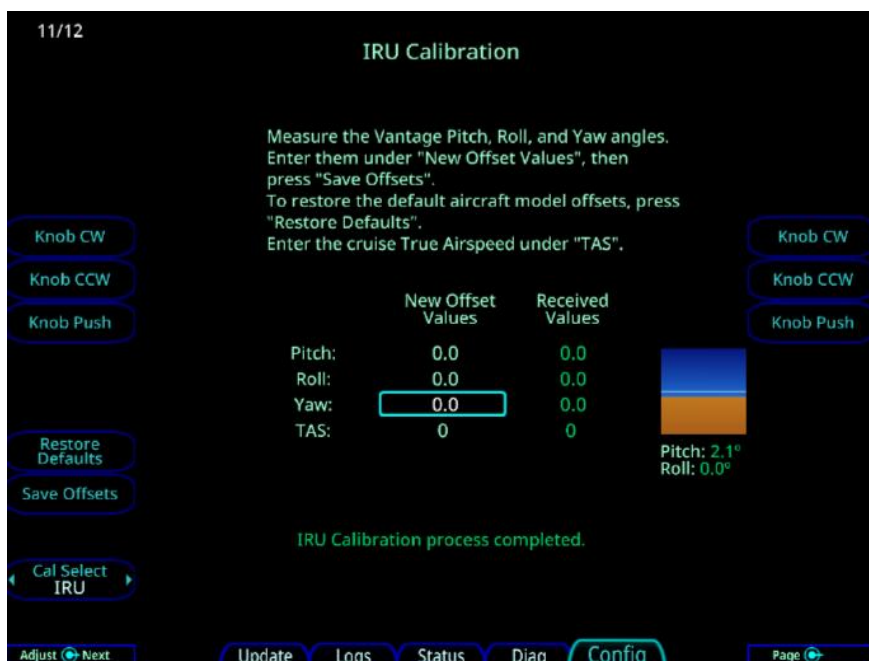


Figure 24: PFD and MFD Display Angle Entry Page

With the wings level, measure the **Roll** value on the top of each display using an **inclinometer**. Measure the **Yaw** between the PFD and the MFD using the **goniometer**. Enter the values on the IRU Calibration page for each display, noting that the Yaw angle is only entered on the **MFD**. Figures 25 and 26 shows example values for a G1 SR22 (the pitch actual value is for the aircraft on the gear (not level)). Done correctly, the pitch and roll values on the PFD and MFD should match within 0.1 degrees.

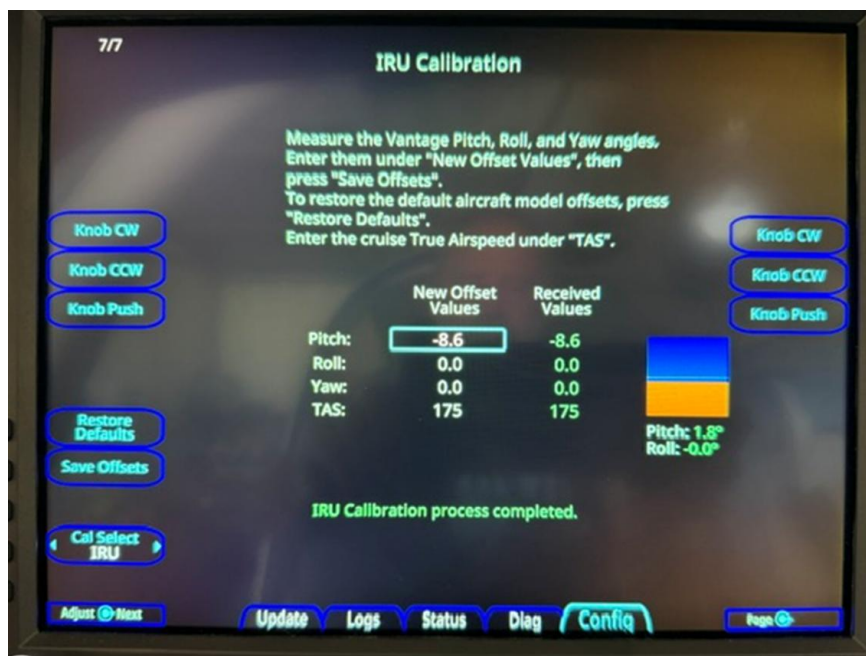


Figure 25: G1 SR22 PFD Angle Values on Gear

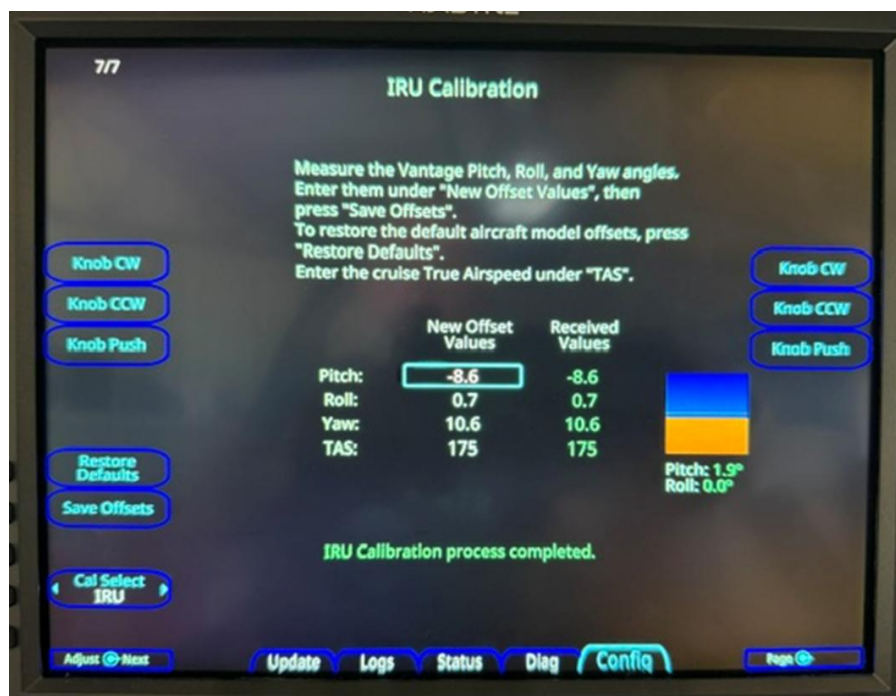


Figure 26: G1 SR22 MFD Angle Values on Gear

Calibrate Magnetometer(s)

IM 5.7 describes the process to **calibrate** the magnetometers (Figure 27). If you have only one, you will calibrate it on the PFD. If you have dual magnetometers, you should calibrate at **the same time** (one on the PFD, the other on the MFD). Note that you **do not** have to start the engine to perform the 360 degree rotation described in the IM. You can use a tow bar or tug and rotate the plane with the engine off if that is more convenient.

If you are unable to get a **Stable** heading reading, confirm that the settings for Serial Config CHNL 7 and 8 match those shown earlier in this Guide. Off and N/A are not the same. Also remember that any changes to the Serial Config page require a hard power cycle of the changed display for them to be saved.

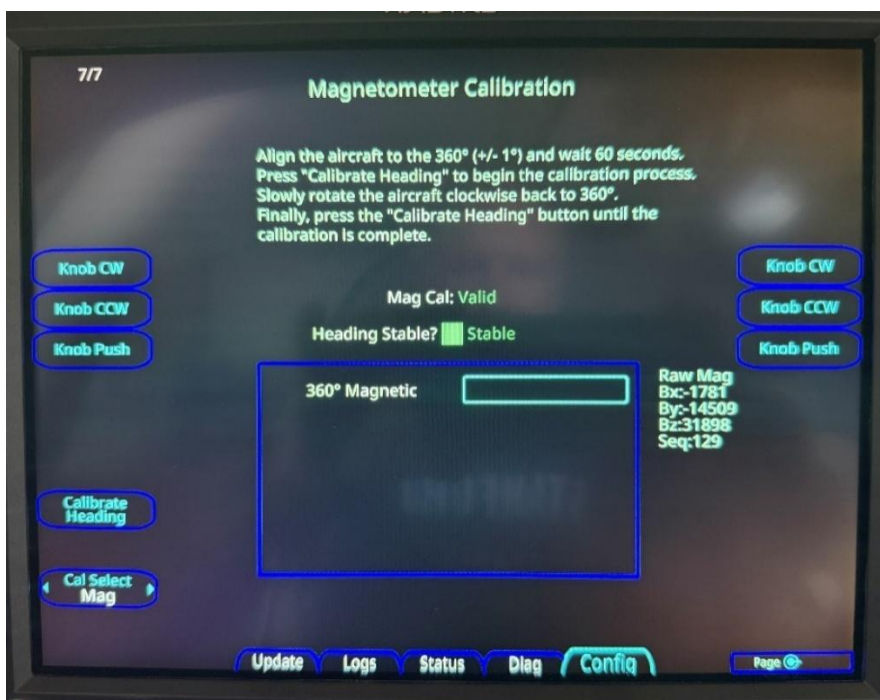


Figure 27: Magnetometer Calibration

If you have dual magnetometers, once calibration is complete, the resulting values should be compared on the PFD and MFD in PFD backup mode. Any heading difference can then be “dialed out” on the Heading Verification screen (Figure 27A).

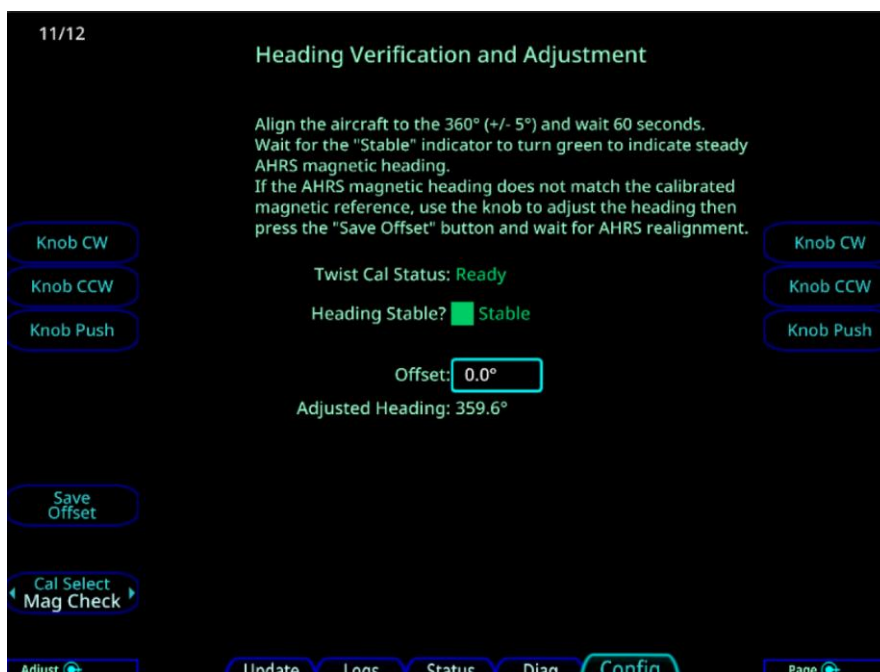


Figure 27A: Dual Magnetometer Heading Adjustment

20. DB Updates

You can obtain the latest copies of the Jeppesen data for the Vantage displays by following [these instructions](#). Update the **Jeppesen** databases as described in section 8 of the IM. The **Nav and Obstacles** data should be installed on both the **PFD and MFD**. The **Charts** data is only installed on the **MFD** and, if present, an IFD540/550.

Note that most users found that they had to **call Jeppesen** to get them to correctly replace their Entegra subscription with Vantage.

The **PFD, MFD, and both IFDs** must all be on the **same** Nav and Obstacles release cycle. You should not pre-load a future cycle of the data files while still using the current cycle. The update should be performed with the new cycle becomes current.

The **VFR chart** updates are available on the Avidyne portal [here](#) (scroll down the VFR charts). Note that to view VFR charts you must press the **Land** LSK button on the MFD repeatedly until they appear.

21. Calibration and Testing

Complete the ground and flight tests listed in sections 6 and 7 of the IM. A pitot static **compliance** check is required (IM 5.9).

----- END -----