



**Garmin GNS430/530 Series
Equipment Supplement**



Revision A2

10-Jun-2014

Record of Revisions

Revision	Date	Change Description
A	1-Dec-2012	Initial Release
A1	10-Sept-2013	Corrected/revised Garmin pin assignments, Section 2.1, according to GNS400W Series Installation Manual, Rev. E, March 2008.
A2	10-Jun-2014	Corrected switched Serial Port Input/Output values, Section 3.1

Table of Contents

Section 1: Introduction

1.1 About the GNS430.....	3
1.2 Data Port Requirements.....	3

Section 2: Installation & Wiring

2.1 Suggested Connections.....	4
2.2 Worksheet: My System.....	4
Figure 2-1: HXR Interconnect.....	5

Section 3: Setup & Programming

3.1 Display Unit Setup.....	6
3.2 Configuring The GNS 430.....	7
3.3 Post-Installation Check-Out.....	7

Section 1: Introduction

1.1 About the GNS430 Series

The Garmin GNS430/530 series has been a staple ingredient of certified IFR instrument panels for many years. The unit adds useful functionality, including IFR GPS approach capability, to any GRT system with an ARINC 429 module. This supplement provides suggested methods for connecting this GPS to the EFIS display unit to allow optimal performance of both units.

Download the current installation manual appropriate for your receiver from the Garmin website and follow all instructions thoroughly. GRT provides pin assignments here for convenience. While the chance that pin assignments will change is very slim, Garmin may change them at any time.

The interface between this GPS and the EFIS allows for:

- GPS position, groundspeed and ground track to the EFIS.
- GPS flight plan data to the EFIS (although curved paths such as DME arcs, procedure turns and holding patterns are not displayed)
- Display of Localizer/Glideslope data on the EFIS
- Display of GPS CDI data to the EFIS in the same format as localizer data
- Transmission of Fuel/Air Data Z to the GPS to allow RAIM integrity monitoring and other functions.

Note: In this section, wherever the term GNS430 is used, it applies to any of the following receivers: GNS430, GNS430W, GNS530, or GNS530W.

1.2 Data Port Requirements

See Figure 2-1 for sample wiring diagram.

Required Display Unit Data Port	Suggested Assignment
Serial Port IN	Serial 1 IN
Serial Port OUT	Serial 1 OUT
ARINC 429 IN (GPS Input)	ARINC 429 IN 1-A
	ARINC 429 IN 1-B
ARINC 429 IN (VOR/LOC Input)	ARINC 429 IN 2-A
	ARINC 429 IN 2-B
ARINC 429 OUT	ARINC 429 OUT A
	ARINC 429 OUT B

Section 2: Installation & Wiring

2.1 Suggested Connections

For more information on Display Unit pins and connectors, see Connector Definitions (HX, SX) on the GRT website or Pinout Diagrams in HXr Installation Manual. Reference for Garmin pin assignments: GNS400W Series Installation Manual, Rev. E, March 2008.

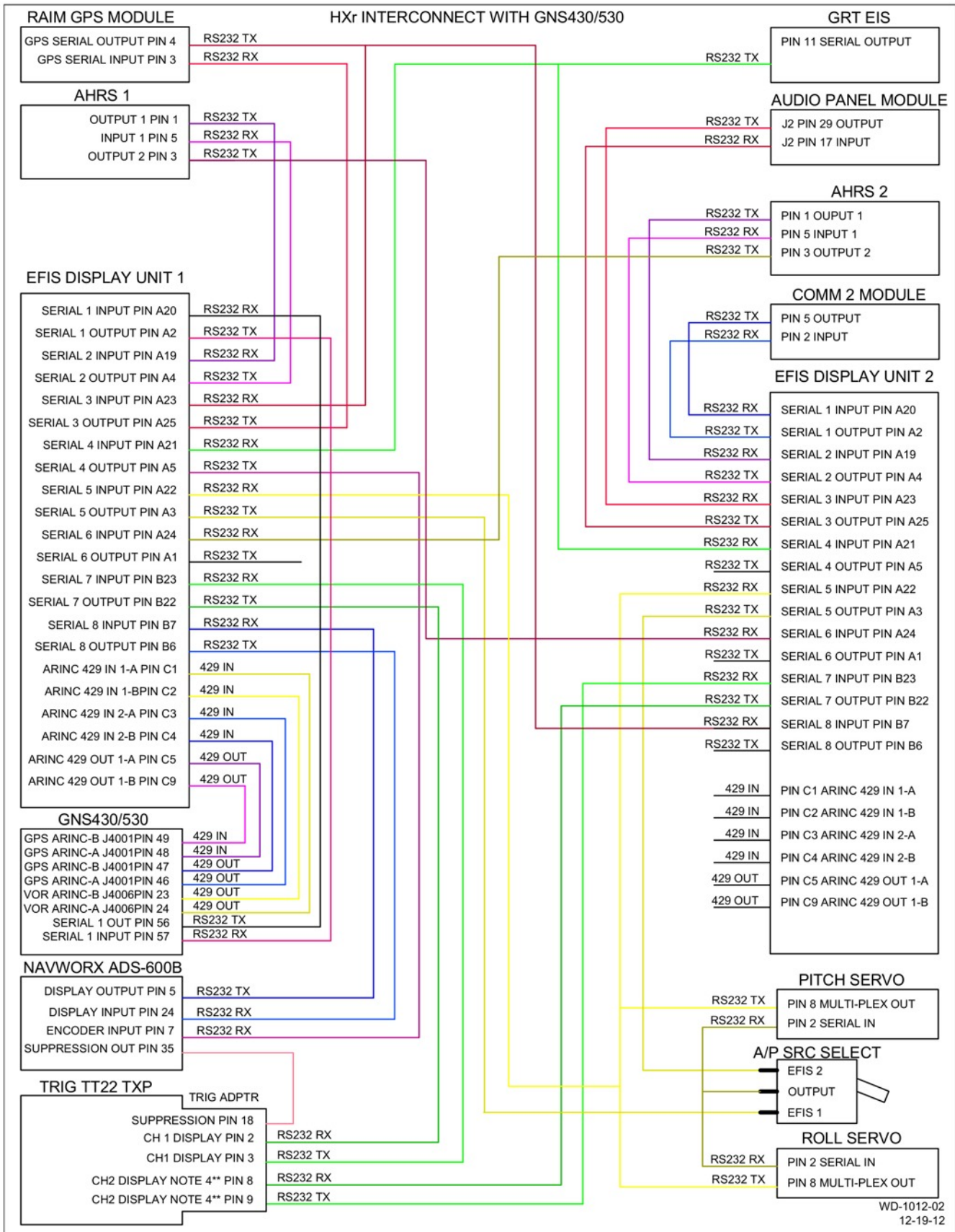
Display Unit Pin	Display Unit Function	GNS430 Pin	GNS430 Function
A2	Serial 1 Out	P4001-57 (Serial 1 In)**	"Fuel/Air Data" for RAIM integrity, etc.
A20	Serial 1 In	P4001-56 (Serial 1 Out)**	"Aviation Format" GPS position information
C1	GPS input	P4001-46	ARINC 429 GPS Output
C2		P4001-47	
C3	VOR/ILS input	P4006-24	ARINC 429 VOR/ILS Output
C4	VOR/ILS input	P4006-23	
C5	EFIS Output	P4001-48*	ARINC 429 EFIS Input
C9		P4001-49*	

* GNS430 ARINC IN pair 2A/2B may also be used. See Garmin 400 Series Installation Manual, Connector 4001 Description for more information.
NOTE: Connectors for the GNS400 series may use the prefix P or J, but the pin numbers are the same.
 ** Any GNS430 RS-232 serial port pair may be used.

2.2 Worksheet: My System

You may use this form to make a record of your own Serial Port and ARINC OUT choices.

Display Unit Pin	Display Unit Port	GNS430 Pin	GNS430 Port	Wire Color
	Serial _____ Out	P4001-_____	Serial _____ In	
	Serial _____ In	P4001-_____	Serial _____ Out	
C1	ARINC 429 IN 1-A	P4001-46	GPS ARINC 429 OUT A	
C2	ARINC 429 IN 1-B	P4001-47	GPS ARINC 429 OUT B	
C3	ARINC 429 IN 2-A	P4006-24	VOR/ILS ARINC 429 OUT A	
C4	ARINC 429 IN 2-B	P4006-23	VOR/ILS ARINC 429 OUT B	
C5	ARINC 429 OUT 1-A	P4001-_____	ARINC 429 IN _____ A	
C9	ARINC 429 OUT 1-B	P4001-_____	ARINC 429 IN _____ B	



WD-1012-02
12-19-12

NOTE: Connectors for the GNS400 series units may have the prefix J or P, but the pin numbers are the same.

Figure 2-1

Section 3: Setup & Programming

3.1 Display Unit Setup

After the display unit and the GNS430 are installed and wired, use the following table to program the display unit to communicate with the GNS430.

Access the specified Set Menu page in the display unit. Then, look down the list to find each Setting, press the right knob to activate the setting, and turn the knob to set each corresponding Value.

Set Menu Page	Setting	Value
General Setup	ARINC Receive Rate	Low
General Setup	ARINC Transmit Rate	Low
General Setup	Serial Port ___ Rate*	9600
General Setup	Serial Port ___ Input*	GPS 1 Aviation/Mapcom
General Setup	Serial Port ___ Output*	Fuel/Air Data Z Format
General Setup	ARINC VOR/ILS Inputs	Nav1 (or Nav 2 if this display unit is connected to Number 2 GNS430)
General Setup	ARINC GPS inputs	GPS1 (or GPS2 if this display unit is connected to Number 2 GNS430)
General Setup	Nav Mode Source	EXTERNAL
General Setup	Nav EXT1 Label	G430-1
Primary Flight Display Setup	ILS Type	Needles (displays crosshairs) or Scales
Primary Flight Display Setup	Show VOR CDI on Localizer	Yes (or as desired)
Primary Flight Display Setup	Show GPS on LOC/GS	Yes (required for LPV approach)
*Fill in blank with Serial Port you designated for the GNS430.		

3.2 Configuring the GNS430

The following information is provided for your convenience; however, always refer to the most current GNS430 installation manual for the most recent settings & values from Garmin.

Main ARINC 429 CONFIG page	SPEED	DATA
(GPS ARINC 429) IN 1	LOW	EFIS/Airdata
(GPS ARINC 429) IN 2	LOW	OFF (Unless used by another device)
(GPS ARINC 429) OUT	LOW	GAMA 429
SDI	LNAV 1	
VNAV	Enable Labels	
MAIN RS-232 CONFIG page		
	INPUT	OUTPUT
CHNL 1*	Shadin-FADC	Aviation
VOR/LOC/GS ARINC 429 CONFIG page		
	RX	TX
Speed	LOW	LOW
SDI	See GNS430 Install Manual for details	
DME Mode	See GNS430 Install Manual for details	
*GNS430 Serial port pair wired to Display Unit.		

3.3 Post-Installation checkout for ARINC 429 and GNS430

1. Select ARINC status on Display Unit Maintenance page.
2. With the GNS430 on, verify the VOR/ILS frequency tuned in the GNS430 is displayed in the Display Unit Maintenance VOR/ILS Frequency field. This confirms that the VOR/ILS ARINC connection between the GNS430 and the EFIS is functioning.
3. The CDI button on the GNS430 will toggle the Nav Mode between VLOC and GPS. Verify the same nav mode is displayed in the Display Unit Maintenance Nav Mode field to confirm that GPS ARINC data is being received.