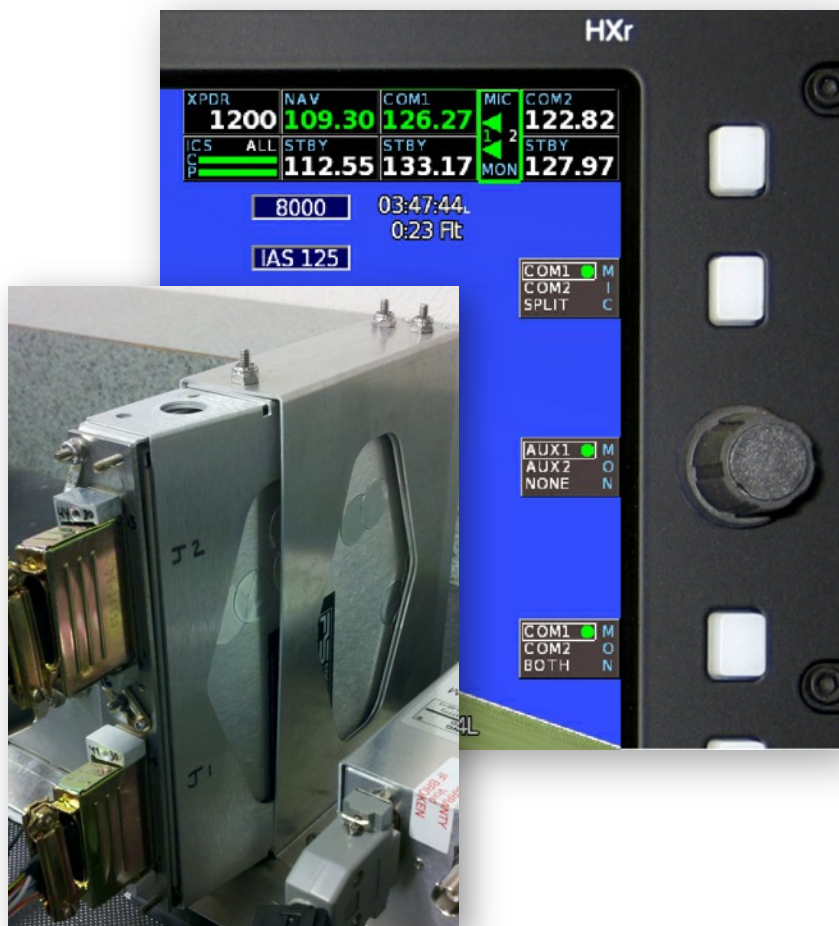




PS-Engineering PAC15EX Remote Audio Panel/Intercom for HXR Equipment Supplement



Revision A1

29-Apr-2014

PAC15EX Supplement Revision Notes

Revision	Date	Change Description
A	13-Dec-2013	Initial release
A1	29-Apr-2014	<p>Corrected and clarified information about Music, Aux and Nav inputs:</p> <ul style="list-style-type: none">• 1.1 Eliminated "auxiliary" in front of "music" in functions description• 2.1 Added note for music distribution in a four-place airplane• 4.1 Eliminated reference to selection of Passenger or Crew volume and combined both into single "Intercom volume." Updated image.• 4.2 Moved Mic inset note from Monitor Aux paragraph to Mic softkey description• Changed "Monitor Aux" paragraph to "Monitor Nav" softkey description and updated image.• Corresponds with HXr Software Version 2b and newer.

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Section 1: Introduction

1.1 About the PAC15EX

The PAC15EX brings the high quality PS-Engineering IntelliVox technology to HXR users through a unique remote interface, eliminating the need for intercom and audio panel boxes on the instrument panel. The PAC15EX functions as both a four-place intercom and an audio panel capable of handling 2 communication radios, 2 navigation radios, and music input. It has several nice features, such as crew isolation options and automatic muting of music during radio reception and transmission. PS-Engineering is famous for its IntelliVox intelligent squelch technology for crisp communication even in noisy cockpit environments.

This supplement is designed to help you connect the PAC15EX audio panel/intercom to the HXR display unit and program it to allow optimal performance of both units.

Download the current PAC15EX installation manual from the GRT website and follow all instructions thoroughly. This supplement does not cover items such as hardware installation requirements.

Please note: Some GRT customers choose to wire their own PS-Engineering equipment, but doing so will void the warranty on PS-Engineering units. Contact PS-Engineering directly to inquire about ordering a pre-made wiring harness for your PAC15EX.

1.2 Data Port and Hardware Requirements

Required Data Ports

Suggested serial ports coincide with HXR Interconnect Diagram WD-1010-01, Figure 2-1.

Required Display Unit Data Port	Suggested Assignment
Serial Port IN	Serial 3 IN
Serial Port OUT	Serial 3 OUT

Section 2: Installation & Wiring

2.1 Suggested Connections

For more information on Display Unit pins and connectors, see Pinout Diagrams in the Appendix of the HXR Installation Manual. NOTE: Any HXR serial port pair may be used. The following port is a suggestion based on Figure 2-1, our standard sample dual-HXR wiring diagram.

In addition to the display unit, the PAC15EX must also be wired to the radios it controls, headset jacks, and power/ground connections. Refer to the PAC15EX installation manual for complete wiring information.

Music Connection Note: To distribute Music 1 to all occupants of a four-place airplane, connect Pin 22 of PAC15EX connector J2 to ground. If Pin 22 is not grounded, the the crew (front seat) will hear Music 1 and the passengers (rear seat) require their own music jack and hear Music 2.

Display Unit Pin	Display Unit Function	PAC15EX Pin	PAC15EX Function
A25	Serial 3 Out (TX)	J2-17 (RS232 RX)	Serial control signals from HXR to PAC15EX
A23	Serial 3 In (RX)	J2-29 (RS232-TX)	Status signals from PAC15EX to HXR

2.2 Worksheet: My System

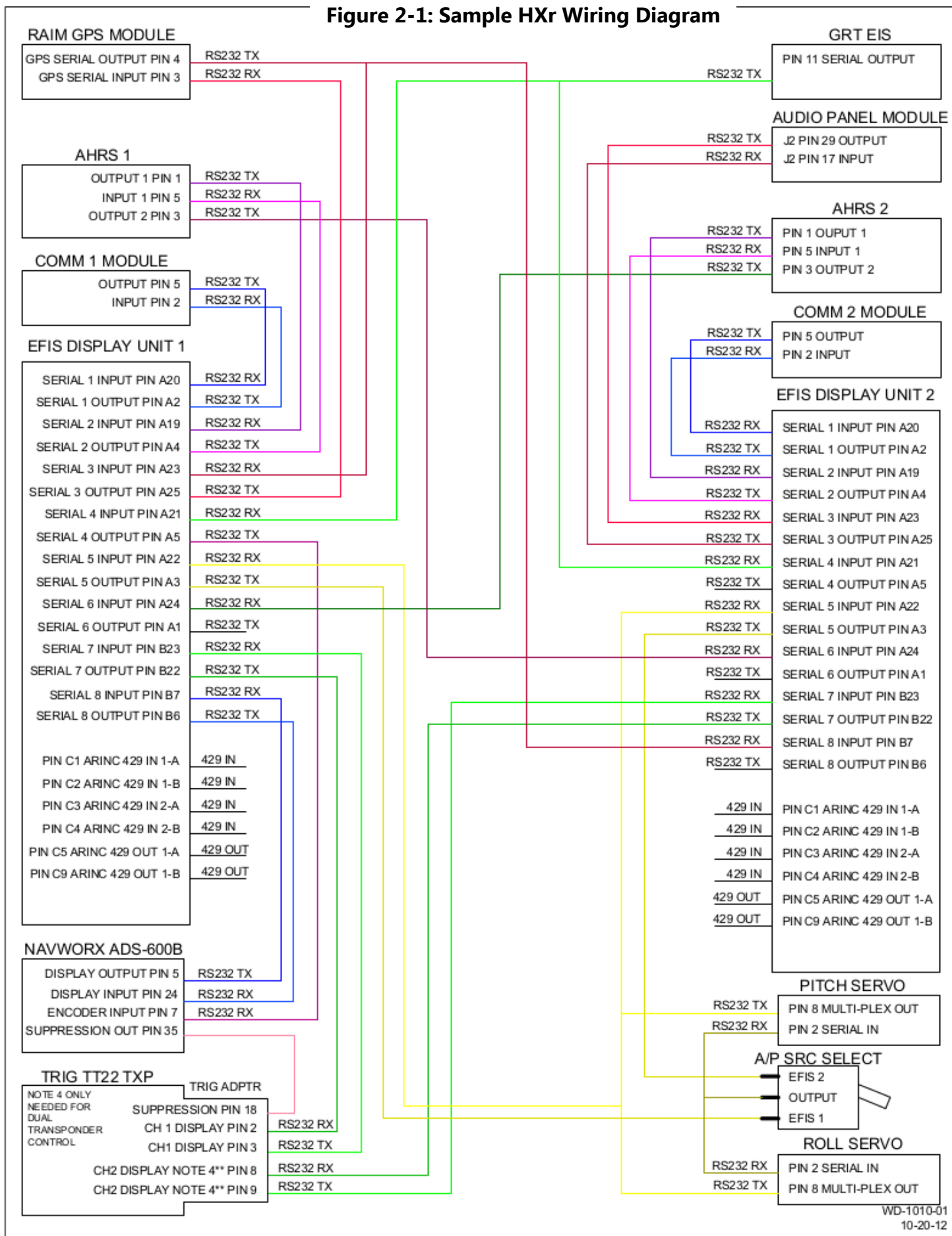
You may use this form to make a record of your own serial port & wiring choices.

Display Unit Pin	Display Unit Port	PAC15EX Pin	Wire Color	Notes
	Serial _____ Out	J2-17 (RS232 RX)		
	Serial _____ In	J2-29 (RS232-TX)		

2.3 Mechanical Installation

The PAC15EX can be installed in either a vertical or horizontal format. Please refer to the PAC15EX installation manual for dimensional drawings and instructions on how to install the unit and its tray.

Figure 2-1: Sample HXr Wiring Diagram



WD-1010-01
10-20-12

Section 3: Setup & Programming

3.1 Display Unit & PAC15EX Setup

1. After the display unit and PAC15EX are installed and wired, use the following procedure to program them to communicate with each other.
2. From the home screen, press the MORE soft key, then the SET MENU soft key. Turn the lower right knob to place the cursor bar over General Setup, then press the knob to select it and go to the General Setup menu.
3. Turn the lower right knob to highlight the Settings of the serial port that you wired to the PAC15EX. Enter the Values shown below to program them. If serial ports have been set up for the radios in the system, you can also set up the remote radio display at this time (COM1/2 Device and Audio Panel COM1/2 settings).

Set Menu Page	Setting	Value
General Setup	Serial Port ____ Rate	9600
General Setup	Serial Port ____ Input	PAC15EX Remote Audio Panel
General Setup	Serial Port ____ Output	PAC15EX Remote Audio Panel
General Setup	COM1 Device	Choose radio designated COM1
General Setup	COM2 Device	Choose radio designated COM2
General Setup	Audio Panel COM1	YES- Always displays remote COM frequency box NO- Does not display remote COM frequency box
General Setup	Audio Panel COM2	Auto- Displays remote COM frequency box if a radio is detected

3.2 Post-Installation Checkout

1. When power is applied to both the PAC15EX and the HXr, access the General Setup menu, and scroll to the settings for the serial port the PAC15EX is wired to. Check to make sure the Serial Port Input Counter is showing a flow of numbers. If this counter appears stuck or shows "0", there is a communication problem between the HXr and the PAC15EX. Verify the wiring is correct and go back through the settings in Section 3.1 of this manual.
2. Refer to PS-Engineering PAC15EX manual, Section 2.13 Operational Checkout procedure, to finish checking the operation of the unit.

Section 4: Using the PAC15EX

4.1 Using the Intercom Feature

- "CREW" or "C" applies to Pilot and Co-Pilot. In most two-place aircraft, the passenger has the ability to transmit over the radio, and is therefore considered CREW.
- "PASS" or "P" applies to passengers without the ability to transmit over the radio; For the purposes of this manual, the term "passenger" applies only to four-place aircraft.
- "TX" refers to transmission and "RX" refers to reception.



NOTE: ICS isolation setting is always displayed in the Avionics Inset ICS window.

SELECT: Press to toggle through remote devices and highlight ICS (Intercom System) with a green box.

MUTE: Mutes **Music 1** during transmission or reception of:

- ON- Radio and intercom
- RAD- Radio (TX and RX)
- ICS- Intercom only
- OFF- Radio TX only

ICS VOL: Turn knob to adjust intercom system volume.

ISO: Isolates certain occupants from intercom system ("sterile cockpit"):

- ISO- Pilot isolated from all other occupants. Only the pilot can RX/TX over radio.
- ALL- All occupants can hear each other and the radio.
- CREW- Pilot/co-pilot can RX/TX over radio and talk to each other. Passengers are isolated from crew, but can talk to each other.

4.2 Using the Audio Panel

In this example, the PAC15EX is used with dual com and dual nav receivers.



SELECT: Press to toggle through remote devices and highlight MIC/MON with the green box.

MIC: Press to select active transmitting radio, Com 1 or Com 2. When SPLIT is selected, Pilot transmits on COM 1 and Co-Pilot transmits on Com 2. Small "1" and "2" in MIC inset turn green upon activation.

MONITOR NAV: Press to monitor Nav for weather broadcast or Morse code.

MONITOR COM: Press to monitor COM 1, COM 2 or BOTH. User may also monitor active/standby frequencies using COM inset controls.

NOTE: All frequencies that are being monitored are **GREEN**.