Vizion Series Autopilots

Dynon SkyView Interface Supplement

8300-087 Rev IR

TRUTRAK FLIGHT SYSTEMS

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SkyView Supplement

For

Vizion Series Autopilots

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Interface Setup

Interface with the Dynon SkyView is relatively simple. It requires an additional RS-232 serial connection to the autopilot from the Dynon D1000 or D700. Each SkyView screen contains five (5) serial ports. This interface will require an unused serial port to be available on the SkyView display. Which serial port is used doesn't matter. The settings required for the serial port are shown below.

1) Set output device to DYNON ADAHRS + SYSTEM
2) Set In/Out Baud Rate to 9600
3) Input device can be set to OFF as this is unused for this interface
4) Autopilot baud rate MUST be set to 9600 as well. NOTE: This will also affect the primary serial input of the autopilot, which is connected to the GPS. If using a portable GPS, be sure to reset the GPS output baud rate to be 9600 as well.

Mode Operation

Operation of the autopilot in SkyView mode is also very simple. Pressing the MODE button on the autopilot will put it in the SkyView mode, as long as the signal is present. Once in the SkyView mode, all commands are driven from the SkyView and not the autopilot. For operation of the autopilot independent of the Dynon SkyView, please refer to the Vizion 380/385 Operating Handbook. SkyView mode operation is outlined below.

BE SURE TO SYNC THE ALTIMETER ON THE AUTOPILOT TO THE SKYVIEW ALTIMETER!!!!!!

1) Press MODE on the autopilot to enter SkyView mode. (Fig 1)

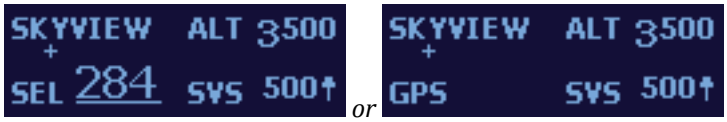
   Note: The autopilot will enter the SkyView mode from the AP OFF screen (powered but not engaged) or with the Vizion engaged.
2) SkyView CDI SRC determines lateral actions of autopilot.
   a. No selection will have the autopilot follow the heading bug of the SkyView. (Fig 2)
   b. Selecting SKYVIEW or the external device (EXAMPLE: GNS430) will follow the flight plan programmed either internally or on the external device. (Fig 3)
   c. Selecting LOC/VOR/ILS will have the autopilot follow the heading bug.
3) For vertical mode control, an altitude bug AND a vertical speed bug must be set on the SkyView. Be sure to select an appropriate vertical speed for the selected altitude. Once the autopilot gets to the selected altitude the display will display ALT HOLD. (Fig 4) If an altitude bug is not set on the SkyView, the autopilot will follow any changes to the vertical speed bug.

   Note: The autopilot will follow the vertical speed bug any time the altitude bug is adjusted from the current altitude!
4) Press MODE on the autopilot to exit SkyView mode and synchronize to both current track and vertical speed. (Fig 5)

Figures

Figure 1

Press MODE (on Vizion)



Note: Upon entering the SkyView mode, the Vizion will automatically grab the current heading bug, altitude bug, and vertical speed bug being output by the SkyView. If the SkyView is showing a flight plan on the CDI, the Vizion will enter GPS mode.

Figure 2

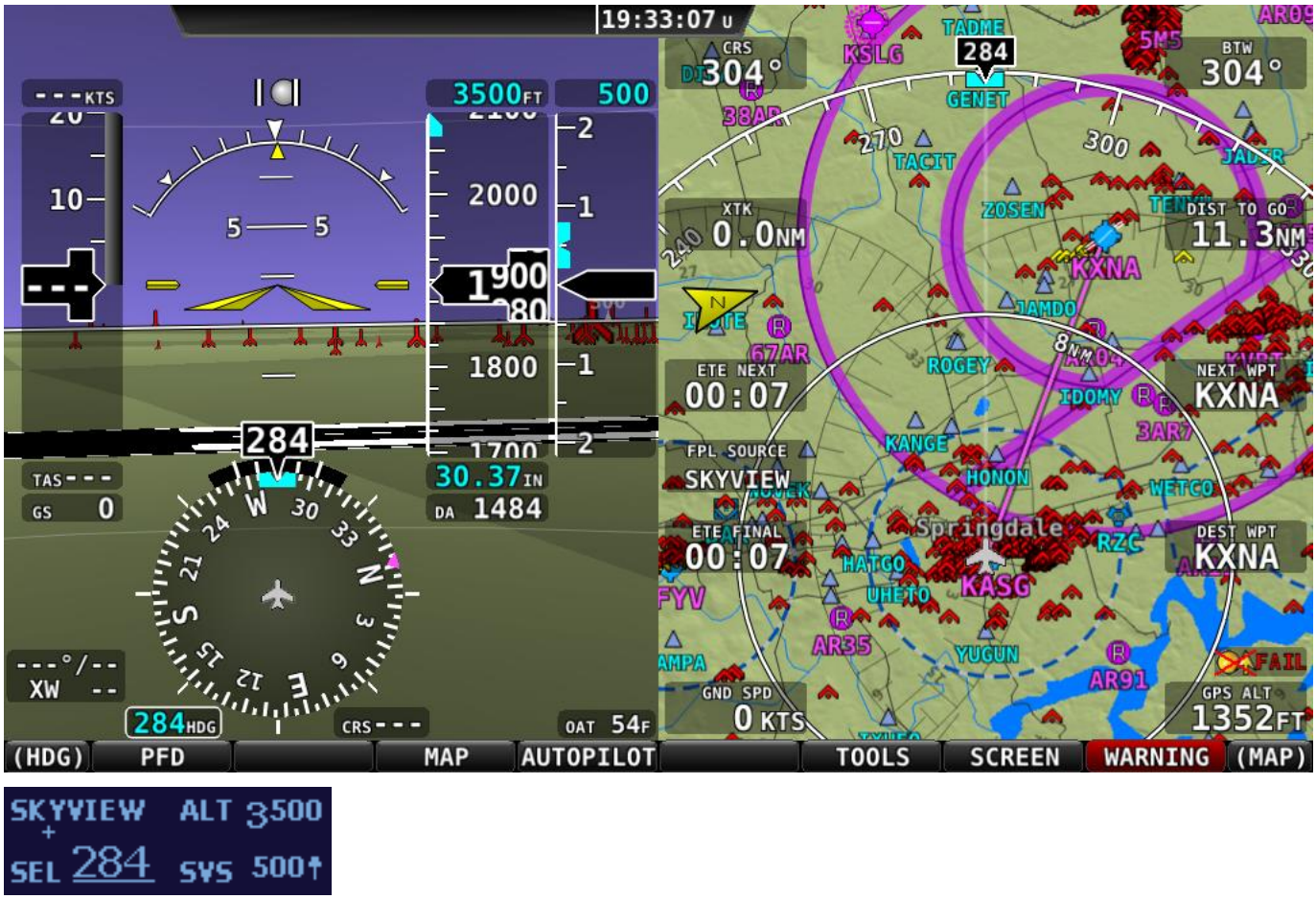


Figure 3

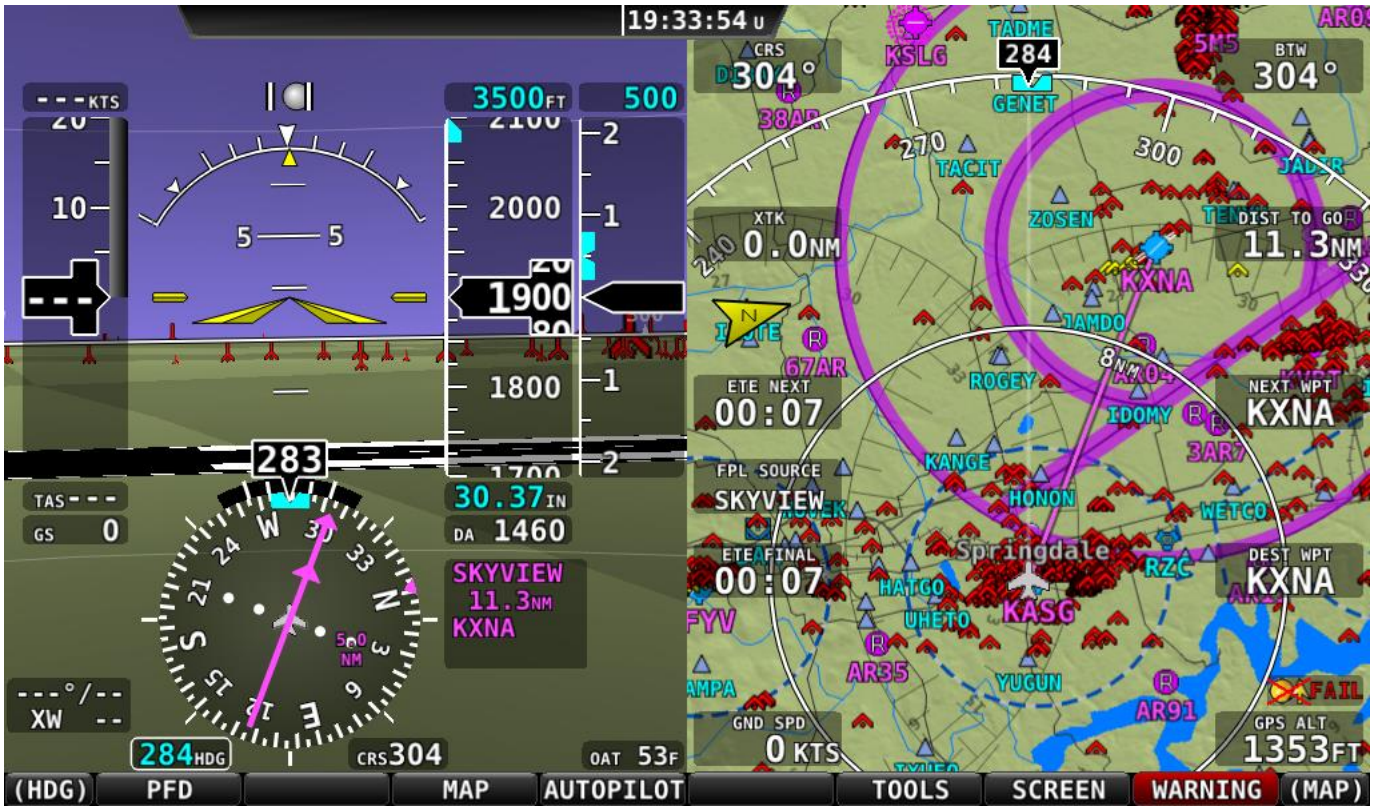
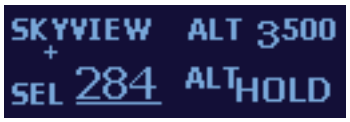


Figure 4



or

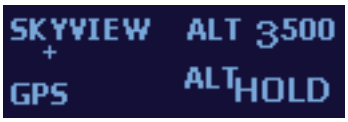
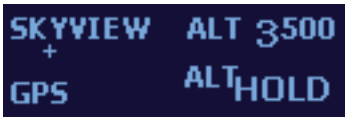
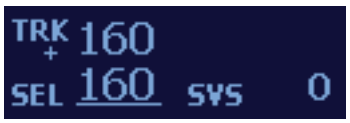


Figure 5

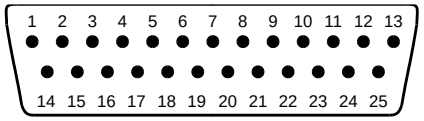
or



Press MODE (on Vizion)



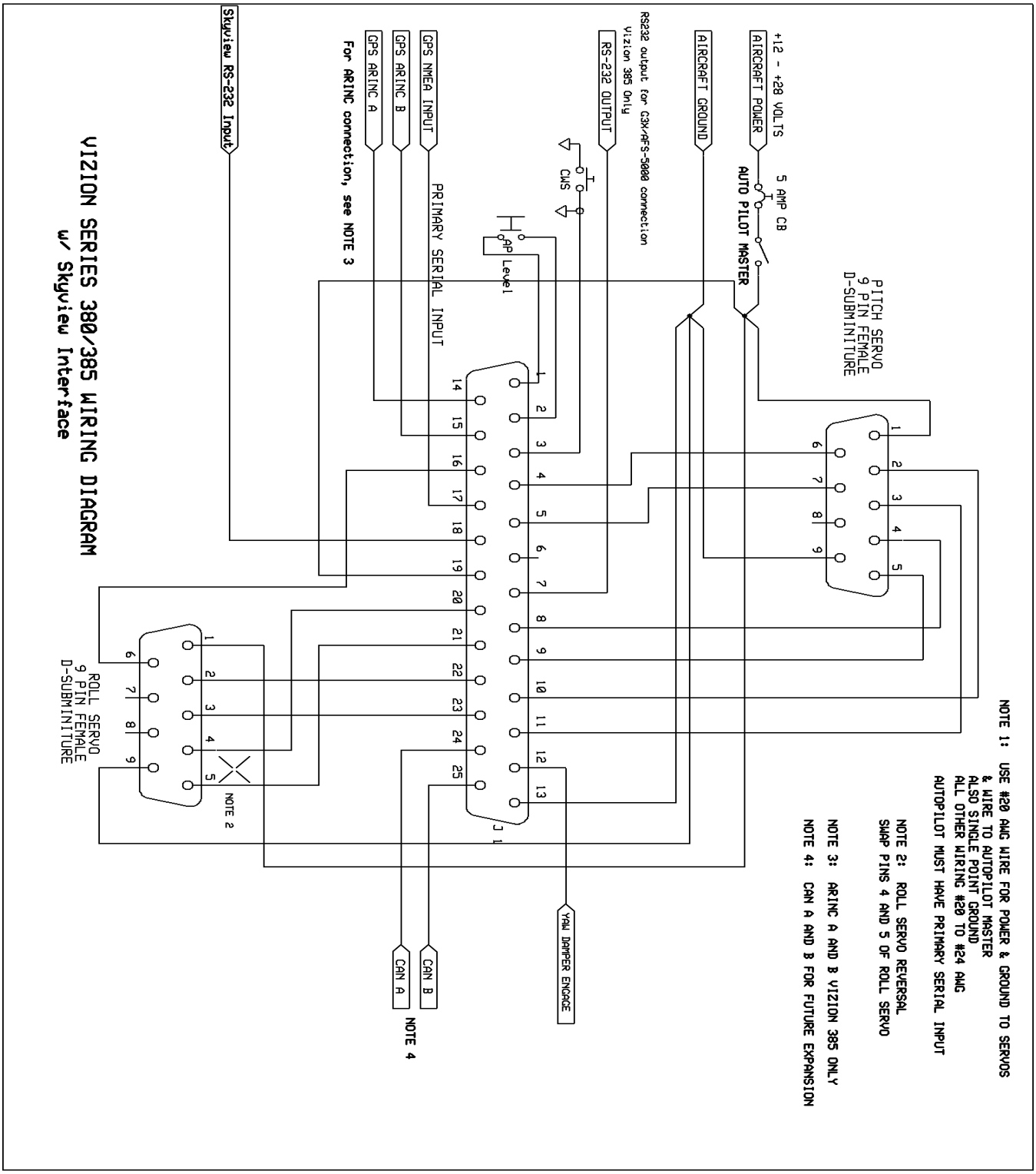
Electrical Pin-out



Rear 25-Pin Connector P101
viewed from rear of unit

P101 Pin	Function	Notes
1	Used for external Emergency AP Level button connection.	
2	Used for external Emergency AP Level button connection.	
3	**Control Wheel Switch**. Connect as shown in wiring diagram to a SPST momentary switch located remotely to the autopilot for convenient engage/disengage function.	
4	**Pitch Servo Torque Control**. A signal from the autopilot to the pitch servo which sets the amount of torque to be delivered by the servo.	
5	**Pitch Servo Trim Sensor**. A signal from the pitch servo to the autopilot which indicates an out-of-trim condition and its direction.	
6	Unused.	
7	**Auxiliary RS-232 Output**. Output to G3X/AFS-5000 series	(G3X) P3701 p 47
8 9 10 11	**Pitch Servo control lines**. These lines cause the stepper motor in the pitch servo to run in the appropriate direction at the desired velocity. They are small-signal lines and do not have any substantial current-carrying capability or require any special shielding. Connect to pitch servo as shown on wiring diagram.	
12	Yaw Damper option.	
13	**Ground Connection**. Provide #20 AWG to common grounding point.	
14 15	**ARINC-A** **ARINC-B** Digital differential signals from Garmin, Sierra, or other panel-mount receiver which provide directional steering commands (GPSS, GPSV) to autopilot	Vizion 385 Only
16	**Roll Servo Torque Control**. A signal from the autopilot to the roll (aileron) servo which sets the amount of torque to be delivered by the servo.	
17	**Primary Serial Input**. Baud rate selectable 1200, 2400, 4800 or 9600 baud. Automatically decodes NMEA-0183, Garmin Aviation Format, or Apollo/UPSAT Moving-Map or GPSS format. Provides directional reference to the autopilot.	
18	**SkyView RS-232 Input**. Input from Dynon SkyView for SkyView mode control.	Dynon SkyView connection only
19	**Autopilot Master** (+12 to +28 V DC). The autopilot itself draws less than 0.5 ampere. Most of the current required by the autopilot system is used by the servos (up to 2A per servo).	
20 21 22 23	**Roll (aileron) Servo control lines.** These lines cause the stepping motor in the roll servo to run in the appropriate direction at the desired velocity. They are small-signal lines and do not have any substantial current-carrying capability or require any special shielding. Connect to roll servo as shown on wiring diagram.	Reverse servo direction if necessary by swapping wires on pins 20 and 21. See note 2 on wiring diagram.
	Wiring to roll servo J201 / Direction of servo arm / capstan rotation (as viewed from face of the servo body) for **RIGHT** aileron	
	J101 / Pin 20 / Pin 21	
	Standard / J201-4 / J201-5 / Servo CCW (counter-clockwise) ➔ RIGHT	
	Reversed / J201-5 / J201-4 / Servo CW (clockwise) ➔ RIGHT	
24	No Connection. Reserved for future expansion.	
25	No Connection. Reserved for future expansion.	

Wiring Diagram



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