



PRINTED CIRCUIT BOARDs FOR A  
CESSNA C182

Version 1.0

Last edited: 21.12.2017

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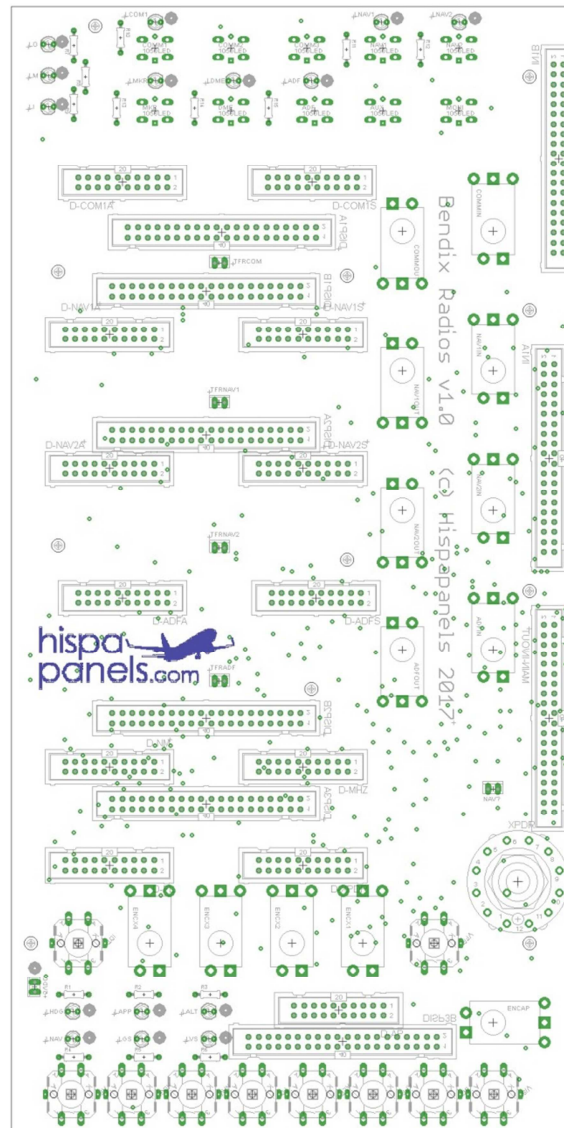
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# 1. BENDIX TYPE AUTOPILOT AND RADIO STACK

## 1.1. Printed circuit board for a Cessna C182 Bendix type autopilot and radio stack.

The printed circuit board (PCB) is built in high quality fiberglass, double sided and with a solder mask that makes very easy installing components on it.



It's designed to be directly connected to SimIO interface cards without interfering with inputs and outputs from other panels.

The PCB includes control for the following elements:

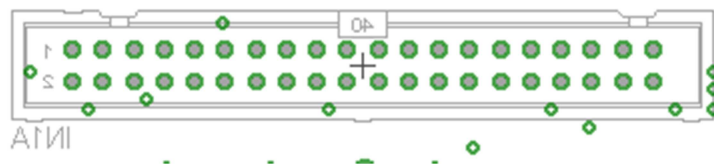
- Audio panel: COM, NAV1, NAV2, ADF, MKR, DME, AUX, MONI, IDT y VFR
- COMM
- NAV1 and NAV2
- ADF

- DME for NAV1 y NAV2
- Transponder
- Autopilot: AP, HDG, NAV, FD, ALT, APP, BC y V/S
- O M I beacons

## 1.2. Silkscreen on PCB.

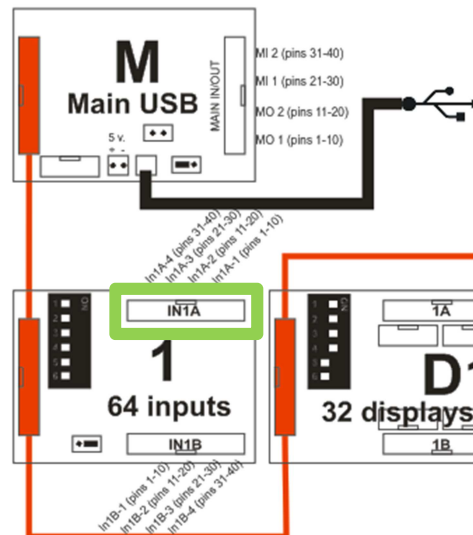
The PCB has a white silkscreen on the front side, but this silkscreen describes the components installed on both sides.

The mirrored texts indicate that the component must be installed on the back side of the PCB, and its position if needed.



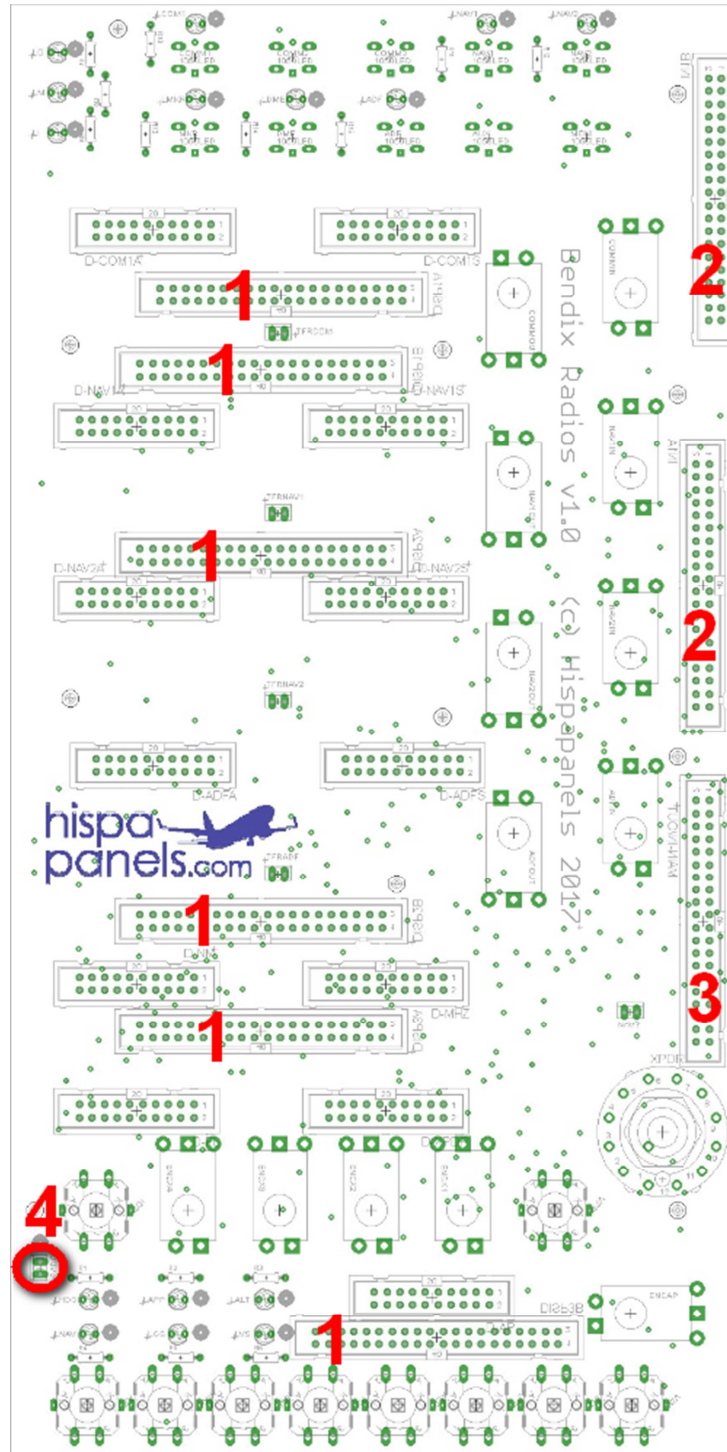
In the previous picture, the component is connected to connector IN1A on 64-inputs card "1".

The following diagram shows part of the block diagram for the Cessna C182. For the previous example, we are talking about the green marked connector IN1A:



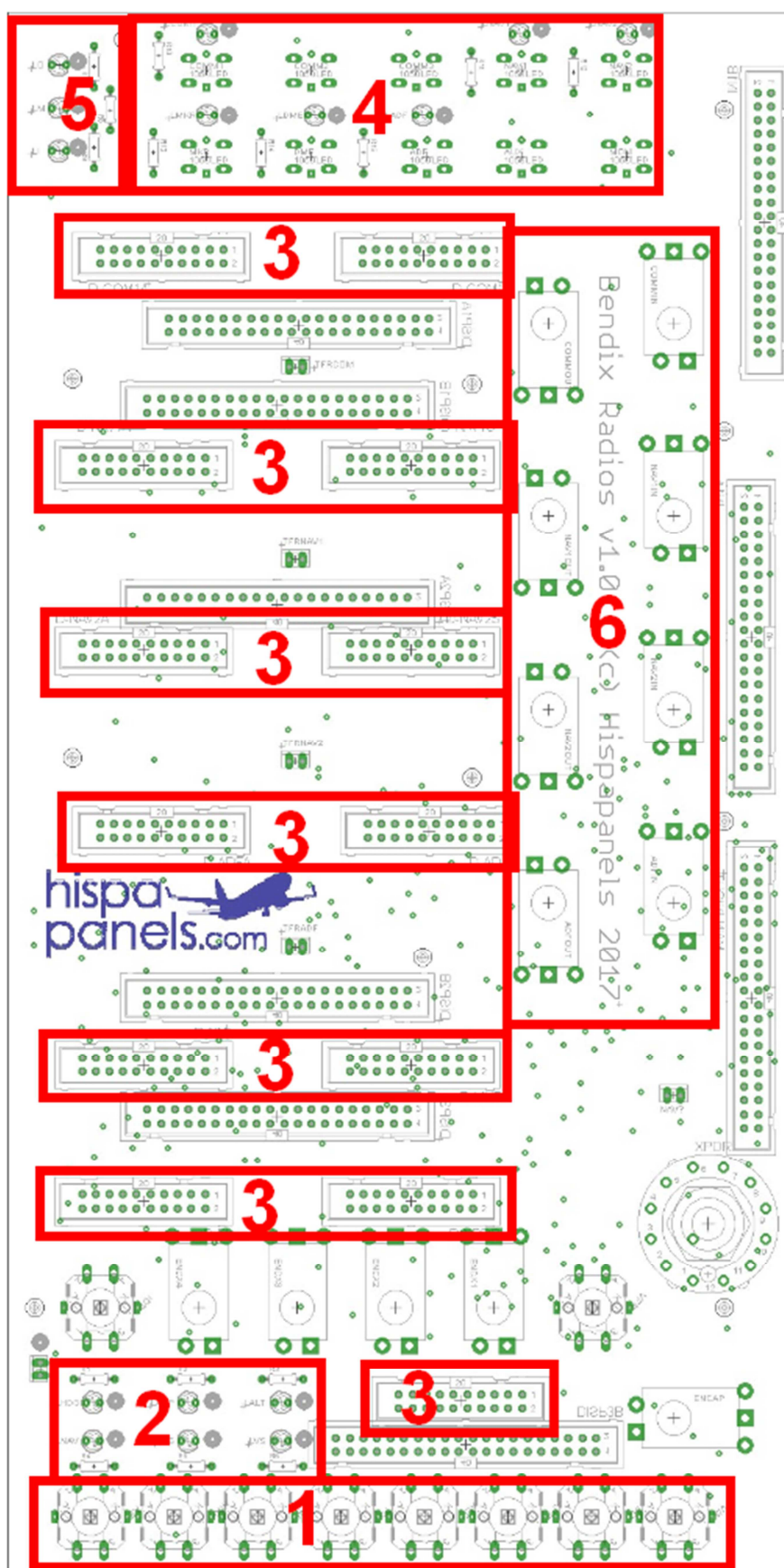
### 1.3. Components installation.

Components to be installed on the back side are:



1. Connectors for displays cards
2. Connectors for inputs
3. Connector for inputs/outputs on Main USB card
4. Power feed connector (+5 vDC)

Rest of components are installed on the front side:



1. Tactile switches for autopilot. From left to right: AP, HDG, NAV, FD, ALT, APP, BC and V/S
2. Leds (amber) and resistors (470 ohm) for autopilot
3. Connectors for displays groups
4. Tactile switches, leds (green) and resistors (470 ohms) for audio panel. From left to right and up to down: COMM1, COMM2, COMM3, NAV1, NAV2, MKR, DME, ADF, AUX and MONI.
5. O M I beacons and resistors. Resistors values are 470 ohms for amber led and 4K3 ohms for white and blue leds
6. Encoders for radios. The ones on the left (outer shaft) have to be installed on an elevated position; the ones on the right (inner shaft) have a slot in the shaft

## 1.4. Pins identification.

The pinout list for each variable on the panel is shown on the following tables.

Inputs:

MI (Main USB)										MI-1										MI-2									
Entrada / Input										1										1									
Pin físico / Physical pin no.										21										21									
Offset										Radios V/S										Radios V/S									
Ubicación del conector / Connector location										Radios Encoder XPNDR 4										Radios Encoder XPNDR 2									
										Radios BC										Radios NAV									
										Radios Encoder XPNDR 4										Radios HDG									
										Radios APP										Radios Encoder XPNDR 1									
										Radios ALT										Radios AP									
										Radios Encoder XPNDR 3										Radios Encoder XPNDR 1									
										Radios VCC										Radios VCC									
										Masa / GND										Masa / GND									
										Radios FD																			
										Radios Encoder XPNDR 2																			



Displays:

D1 (32 displays)			D1A																D1B																
Display	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Offset		Radios	COM sidby	Radios	COM sidby	Radios	COM sidby	Radios	COM sidby	Radios	COM active	Radios	COM active	Radios	COM active	Radios	COM active			Radios	NAV1 sidby	Radios	NAV1 sidby	Radios	NAV1 sidby	Radios	NAV1 sidby	Radios	NAV1 active	Radios	NAV1 active	Radios	NAV1 active	Radios	NAV1 active
Ubicación del conector / Connector location		Radios		Radios		Radios		Radios		Radios		Radios		Radios		Radios				Radios		Radios		Radios		Radios		Radios		Radios		Radios		Radios	

Annex 1: SimIO cards block diagram for Cessna C182.

