



VE2DX ÉLECTRONIC

## VE2DX 2X6 SO2R Interlock Kit Manual

Version 02.02.01

December 15th 2023

VE2DX Electronics Design Inc. 2023c

[WWW.VE2DX.COM](http://WWW.VE2DX.COM)

# **!!! WARNINGS !!!**

**Read the following carefully, and DO NOT PROCEED unless you fully understand and follow them!**

**This device is switching using 12VDC to the required input.**

# 1. Specification:

Switching Voltage: 12 VDC  
Maximum Contact Current: 2Amps  
Device Weight: XXX lbs - XXX Kg  
DeviceSize: 3.5inch X 3.5inch - 87mm X 87mm  
Box Weight: ? lbs - ? Kg

## 2. Instructions;

### 2.1. Verifications;

Carefully verify the content of the box.

Contact your reseller or **VE2DX Electronics Design Inc.** at 450-689-4591 or [info@ve2dx.com](mailto:info@ve2dx.com) if you find any damage.

Box content:

- 1 X Parts pack with (Photo 1);
  - 4 X 8 pin male header connector.
  - 2 X 2 pin male header connector.
  - 4 X stacking pcb holder (Note 1).
  - 12 or 13 X 12vdc relays. (Note 1)
  - 32 X 100uh RF chocks.
  - 12 or 13 X 1N4001 diodes. (Note 1).
  - 12 or 13 X 0.01uF capacitors. (Note 1).
  - 2 X 8 pin female to female pin header cables. (Note 1)
- 1 X VE2DX 2X6 Interlock PCB.
- 1 X manual

Note 1 :

- The 2020 Version of the VE2DX 2X6 Interlock PCB (**Green**), as only 12 relays, diodes and capacitors, does not come with the 2 cables and does not come with the PCB stacking holders.
- The 2023 Version of the VE2DX 2X6 Interlock PCB (**RED**), as 13 relays, diodes and capacitors, comes with the 2 cables and the four PCB stacking holders.

## 2.2. Tools required;

Tools required for the installation ;

- 1 X Small blade screwdriver.
- Pliers.
- Wire Cutters.
- 1 adjustable wrench.
- good soldering iron.

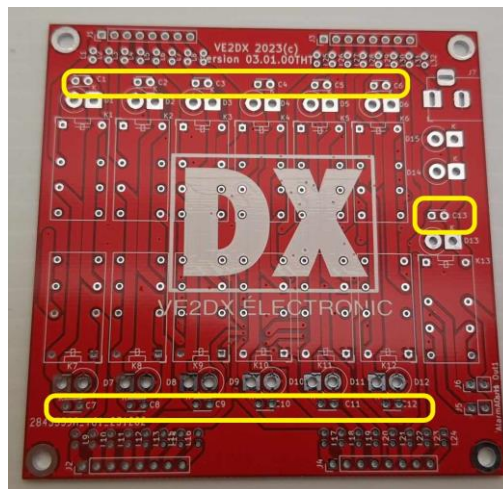
## 2.3. Assembly:

**Please follow these steps carefully.**

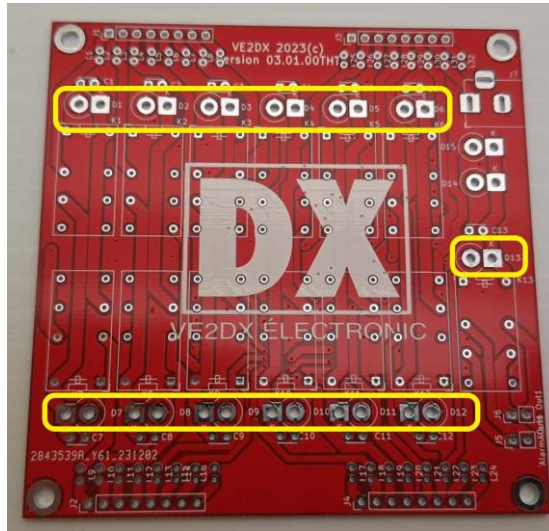
- Once the VE2DX 2X6 Interlock Kit is removed from its packaging and the preceding verifications have been made.



- Install first the 13 0.01uF capacitors on C1 to C13.

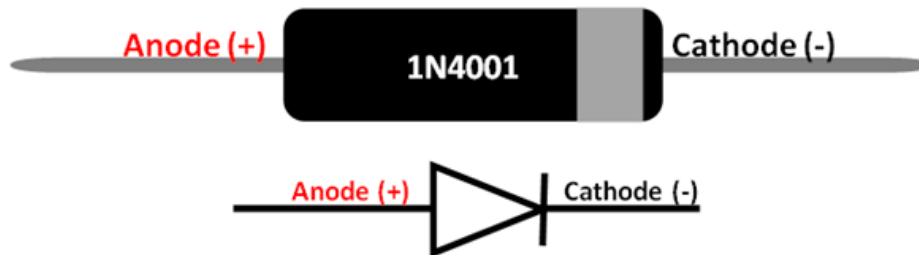


- Install the 13 1N4001 diodes on D1 to D13.



Notes:

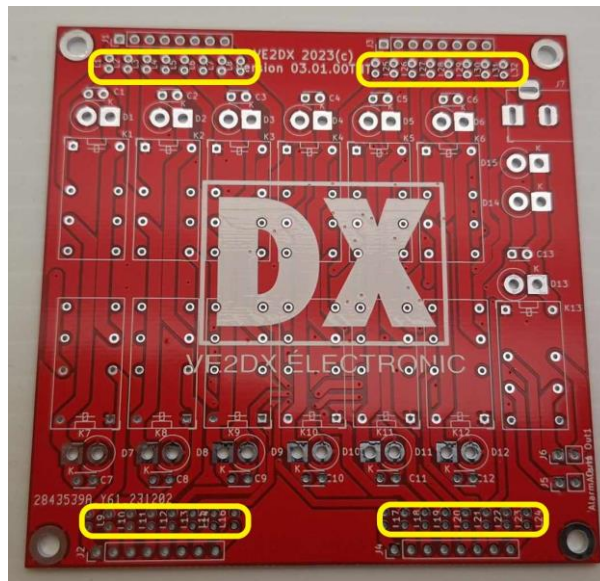
The 1N4001 does have a polarity indicated by the white band on the casing of the diode. The side of the 1N4001 where the white band is is the Cathode and the side without the white band is the Anode. The Cathode.



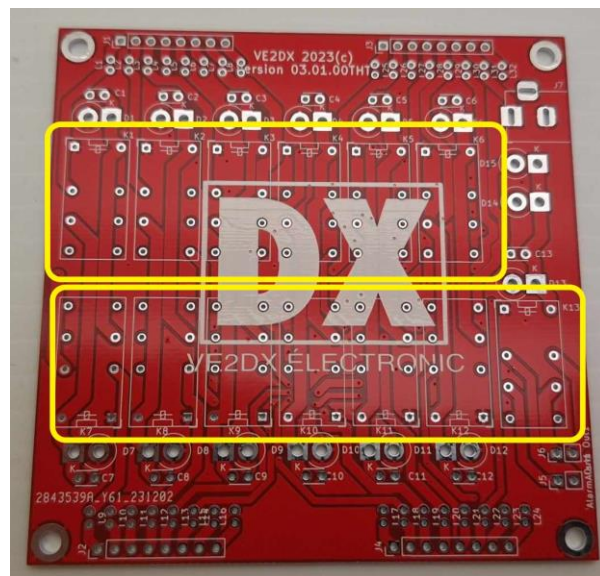
During the installation the Cathode should be installed on the SQUARE pad and Anode on the ROUND pad.



- Install the 32 100uH RF Chokes on L1 to L32.

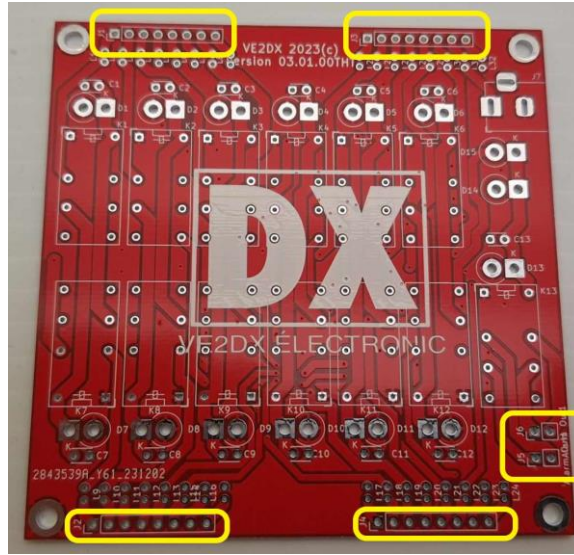


- Install the 13 X 12VDC relays on K1 to K13.





- Install the 4 X 8pin headers on J1 to J4 and 2 X 2pin headers on J5 and J6.



Notes:

The pin headers are optional, the cabling can be soldered directly onto the PCB.

If using the pin headers, then you should cut the 2 cables included to the required length to reach the VE2DX 2X6 Remote antenna switch input connectors, and solder the incoming cables to the remaining cables.

**All wire to wire connections should be soldered and shring wrapped.**

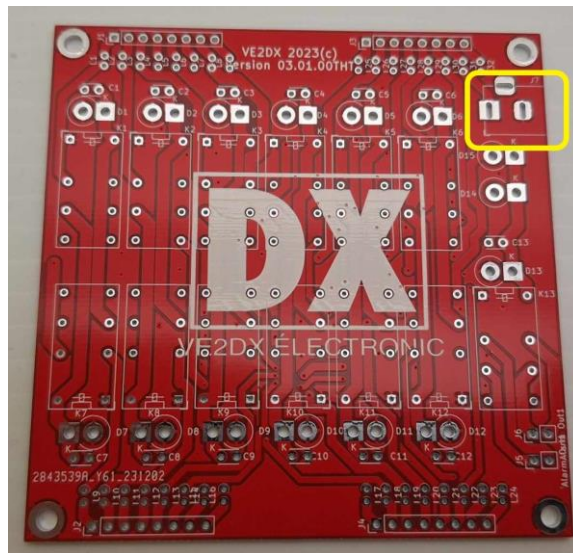
- The pinout of these connectors are as follows;

Pin Number	Function
1	Ground
2 (Optional)	Remote power source (1)
3	Antenna 1 (Lower Frequency)
4	Antenna 2
5	Antenna 3
6	Antenna 4
7	Antenna 5
8	Antenna 6 (Higher Frequency)

Notes:

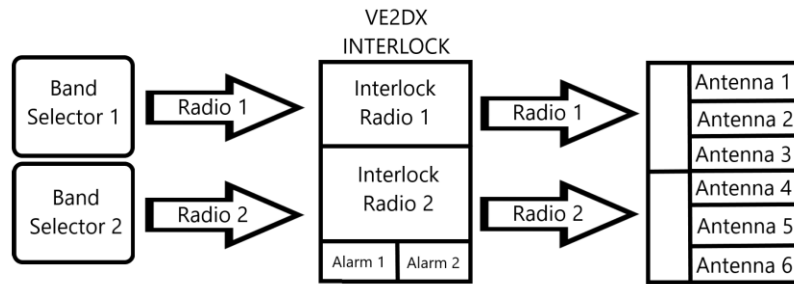
(1) The VE2DX 2X6 Interlock can be powered using 12VDC from the control cable, in this situation the 12 VDC power connector in the next step is NOT required.

- Install the 12VDC barrel connector (Optional).

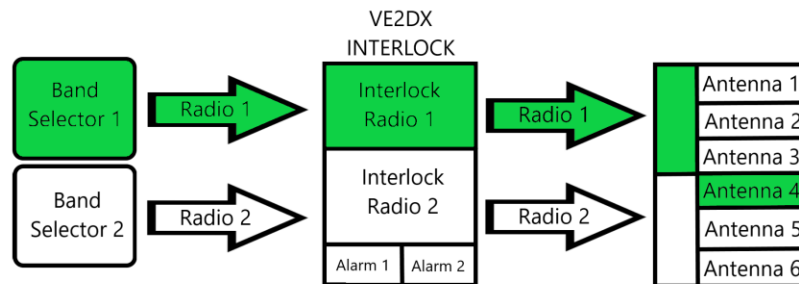


### 3. Instructions;

- Installation block diagram.

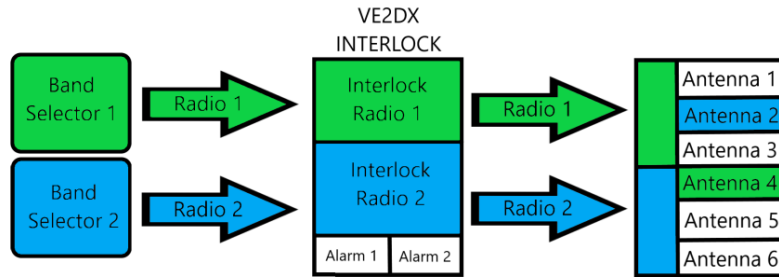


- Radio 1 selecting Antenna 4 with Radio 2 not selecting any antenna.



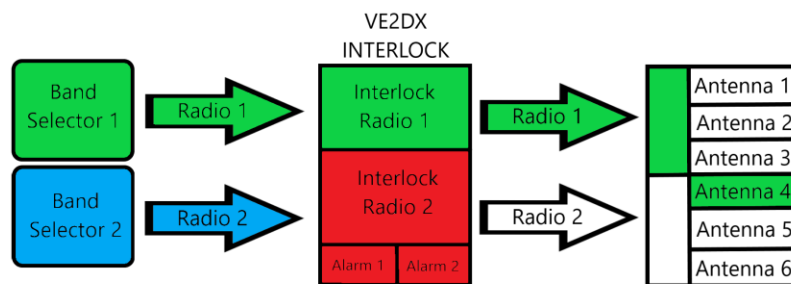
Note here that since Radio 2 is not selected any antennas, Radio 1 selection goes through the VE2DX Interlock without any problems, being that he is the first one to select Antenna 4.

- Radio 1 selected Antenna 4 with Radio 2 selecting Antenna 2



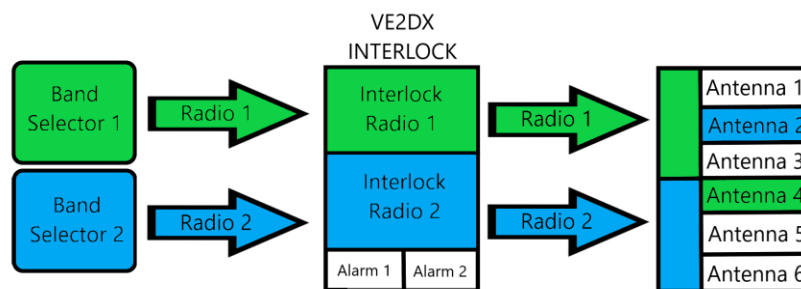
Since Radio 1 already selected Antenna 4, Radio 2 is able to select Antenna 2 without any problems.

- Radio 1 selected Antenna 4 with Radio 2 trying to select Antenna 4 (already in use by radio 1!)



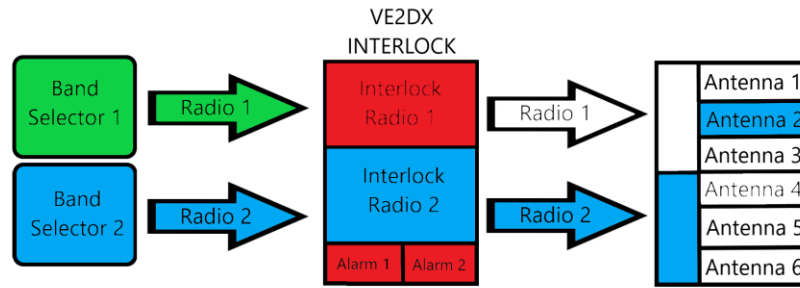
Since Radio 1 already selected Antenna 4, Radio 2 is unable to select Antenna 4 and an alarm is triggered on both outputs.

- Radio 1 selected Antenna 4 with Radio 2 going back to Antenna 2.



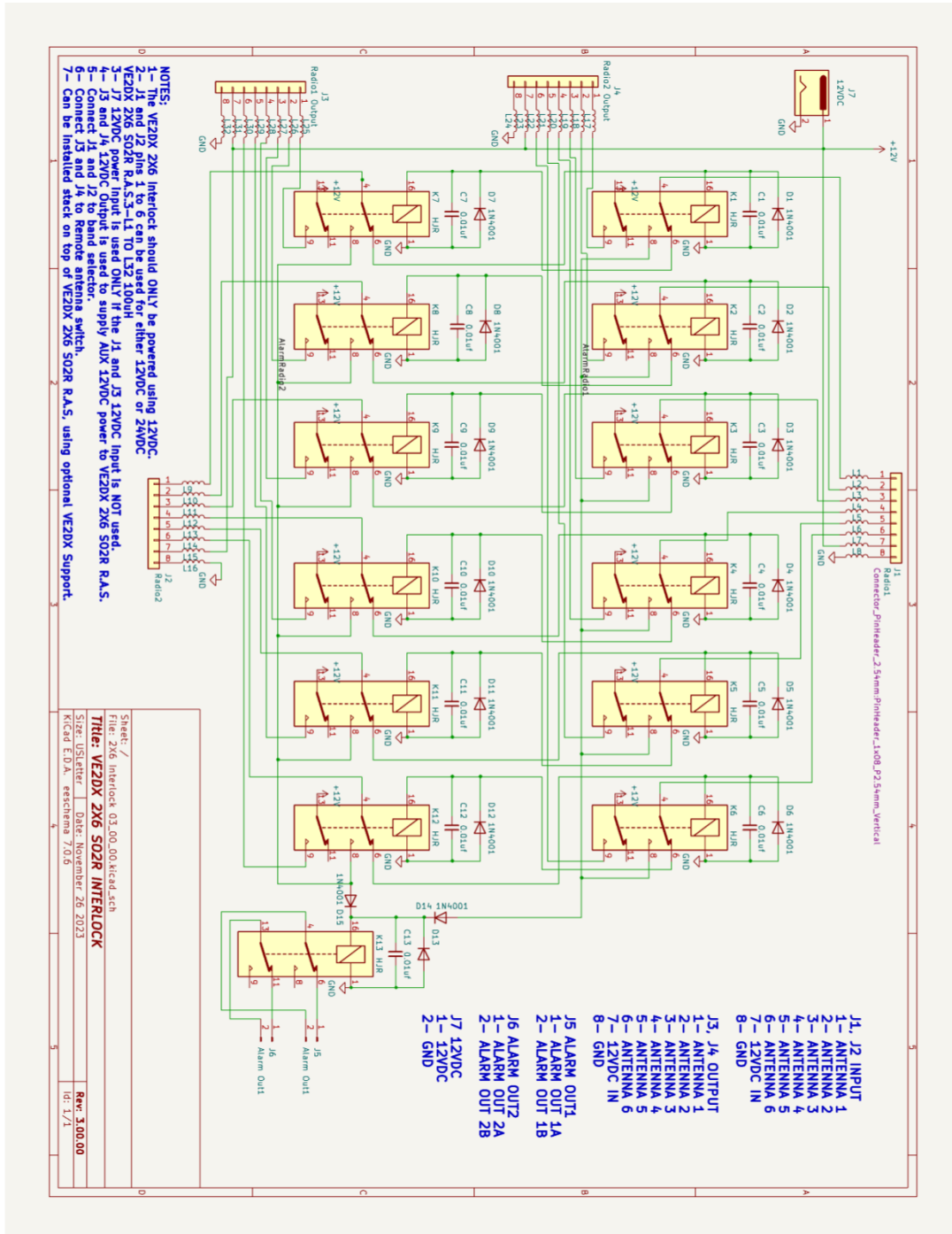
Since Radio 1 already selected Antenna 4, Radio 2 is able to select Antenna 2 without any problems.

- Radio 1 trying to use Antenna 2 with Radio 2 already on Antenna 2



Since Radio 2 already selected Antenna 2, Radio 1 is unable to select Antenna 2 and the alarm outputs are both triggered.

# 4. Schematics:



## **5. Important notes:**

- Never

## **6. Support:**

**VE2DX Electronic Design Inc.**

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