Aug 04, 2015

About the GDV Switch Board

The GDValet Switch PCB is a 2 sided, 2.90 x 1.25 hybrid thru-hole / SMT user input board. The 2 mounting holes are for the #4 size screws and are connected to gnd back to the hosting controller thru the 2 x 5 header on pins (3, 5, 7, and 9). The board can support 5 normally open contact momentary push w/gnd switches or a single 4 direction normally open contact with center push switch, both being thru-hole. The SMT version of the 4 direction switch has been installed and tested at the thru-hole location and works great. Either setup can have the 6 pin SIP or the RN1 SMT installed. If either of these parts is installed, then the 10k pull-up resistors (R13 -R17) on the GDV Controller 8200-10 Rev. C can be eliminated. One Resistor Network (RN1) or 1 Single In-Line Package (SIP) will be needed for 5vdc pull-up for your own design.

Note: Even with all the 10k resistors installed, the unit still passed operational tests. Your results may vary.

Operation

During normal operation 5v will be present on RN1 pins 9 - 14 and SIP6 pin 1. When any of the switches are pushed (closed), the 5v's is shorted to gnd. This pulls the I/O pin low (0v). Your program needs to be monitoring that I/O pin at all times to respond as needed.
If your (OEM) host controller already has pull-up resistors installed and is laid out like the GDValet Controller 8200-10 Rev. C, then neither resistors on the GDV SB is required.

Assembly

Depending on the version you build, the Surface Mount (SMT) may take a little longer to build. For best results the (SMT) part RN1 may require a fine tip soldering iron and should be installed **FIRST**. If you have never worked with (SMT) parts before, using a fine tip iron and prepping each pad location may help. Use a small amount of solder when first starting and take your time. The 2 x 5 connector (J1) should be mounted **LAST** and on the **BACKSIDE** of the Switch Board at the Silk Screen outline. As an option the SIP-6 can also be mounted on the backside. The Tactile switches **MUST** be soldered flush to the PCB, if not the Switch Caps can jam against your Enclosure.

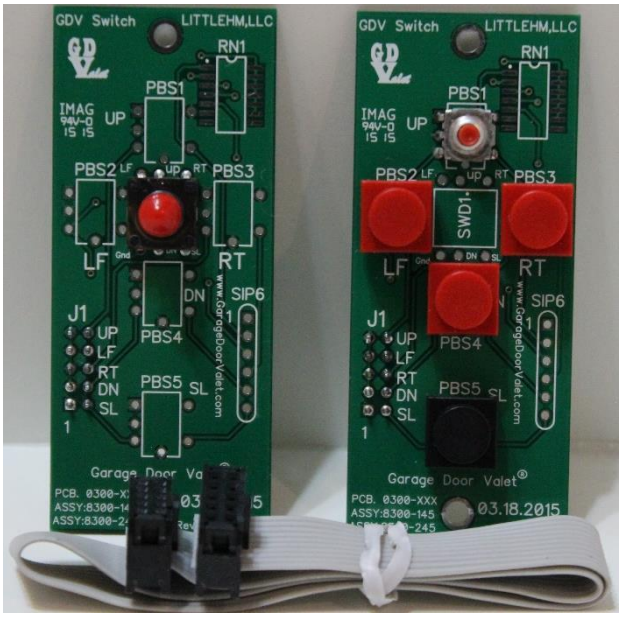
1) First……RN1, SMT part. (Optional)
2) Second...Thru-hole switches
3) Third…..SIP6. (Optional)
4) Fourth…J1 connector on the (**BACKSIDE**).

Important Notes:

Different Tactile switches with gnd pins were tested and to my surprise the gnd pins were in different locations. So the PCB was redesigned again to accommodate 3 different switches at (PBS1 – PBS5). The 4 directional switch (SWD1) either thru-hole or SMT version can only be mounted one way and they both have the same layout.
If you are using the SMT version of (SWD1), align the pins over the corresponding thru-hole locations and solder 2 opposite corner pins first to hold in place. Now go back and touch up the rest of the pins ensuring NOT to use too much solder.

Also the GDV SB should be functionally compatible to Parallax Inc. item: 270801, 5 Position Switch.
Print out the latest PCB drawings and Demo Code from www.GarageDoorValet.com/resource.

SAMPLE PICTURES____GARAGE DOOR VALET KIT



Example GDV S.B. with both types of Switches.

GDV S.B. Kit, Cable included.

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