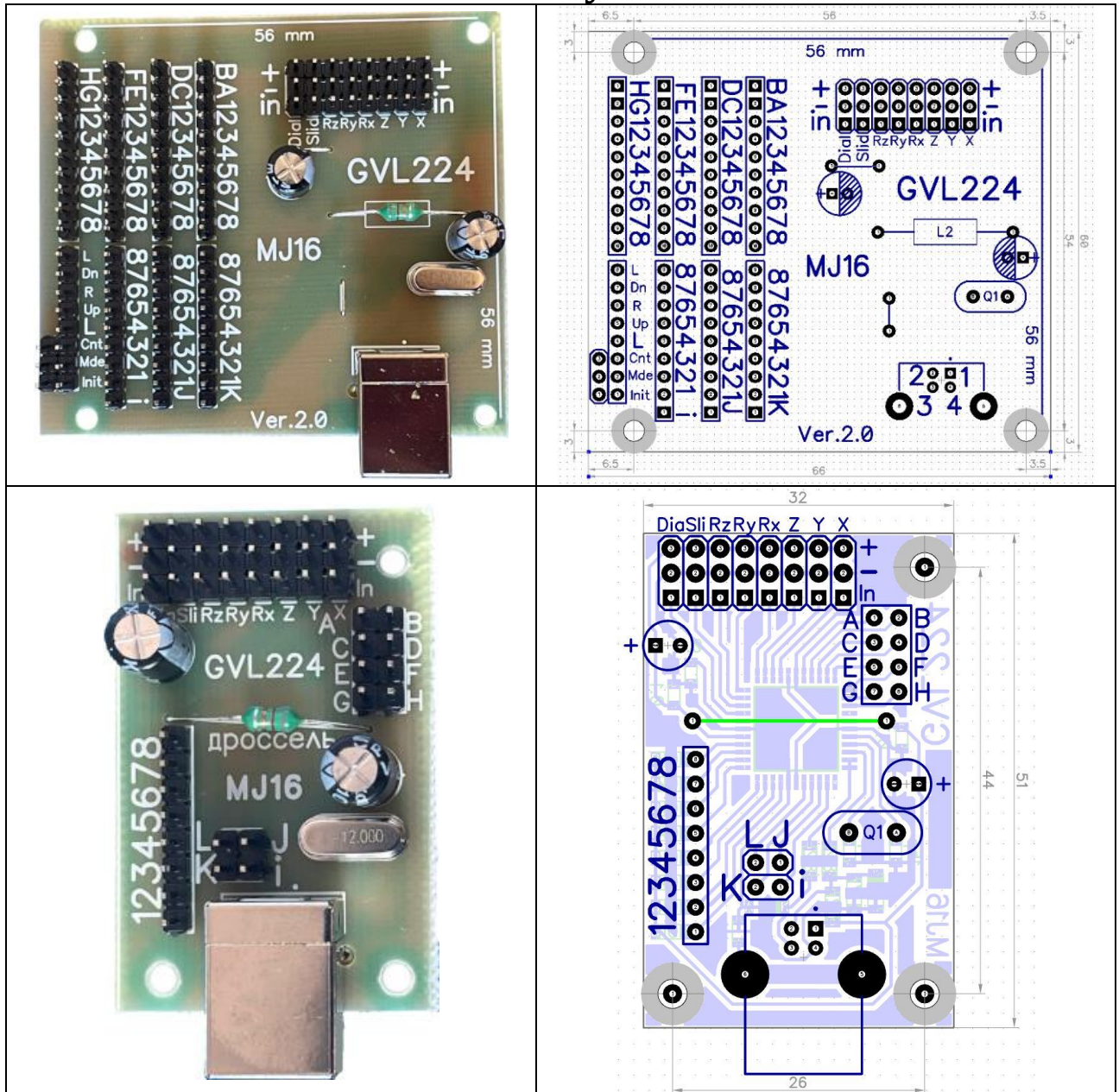


MJoy16



Description controller

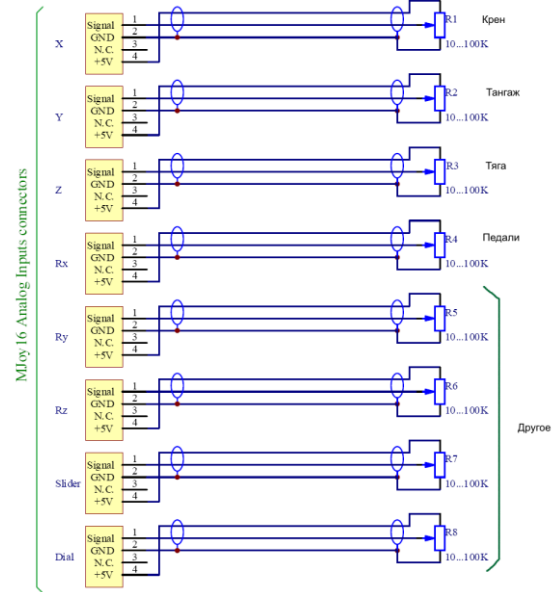
Gamepad controller (joystick, steering wheel, steering wheel) anything else that works in their principle. It allows you to use 8 axes (10 bits each), 64 buttons, 16 toggle switches, 4 encoder, 1 hut. Connected via YuSBI, drivers are required, windows defined as «MJ16» or «MRUD» or «MJ66» (depends on the firmware, firmware all the same functionality, the only difference is in the name, and done to be able to connect multiple controllers to one computer). Once the controller system must be calibrated windose means (gaming devices).

Connecting signal sources



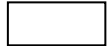
The sources are connected to the "comb» X, Y, Z, Rx, Ry, Rz, Slid Dial and the contacts «S, -, +» (S corresponds «Signal» in the diagram below)

Connect sensors using the convenient contact BLS 3 pins.

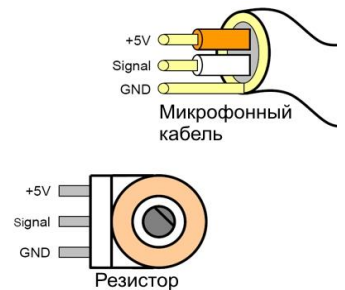


When used as a sources variable resistors of nominal value should be from 10k to 100k. From my own experience I recommend the "golden mean" is about resistors 50kOm. When connecting resistors allowed to use resistors with different ratings.

It also can be used as a Hall sensor signal sources (HH), optical sensors and magnetoresistors "MagRezy" (Mars analogue). I recommend "MagRezy" himself such use.



MJoy16 allows simultaneous connection to different inputs of several types of sources. Connecting best made with a shielded cable (microphone which has two cores on the screen) as short as possible to reduce the influence of possible interference and noise.



If you do not use all the inputs of the axes of the controller, the unused inputs MUST be grounded (for this it's best to use jumpers JM-G).



Connecting buttons, toggle switches, encoders

For the convenience of connecting to the controller buttons better use BLS connectors (as axles for connecting only the required number of contacts). 1-8 columns of the matrix of buttons (toggle switches, encoders, lodges); A, B, C, D, E, F, G, H - buttons column matrix; I, J - I toggle column;

K - column encoders;

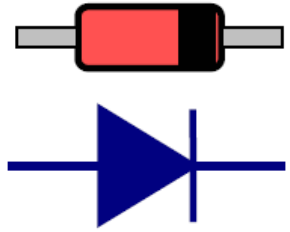
L - column lodges, as well as the functions of the "Center", "Vogue" and "init".

||

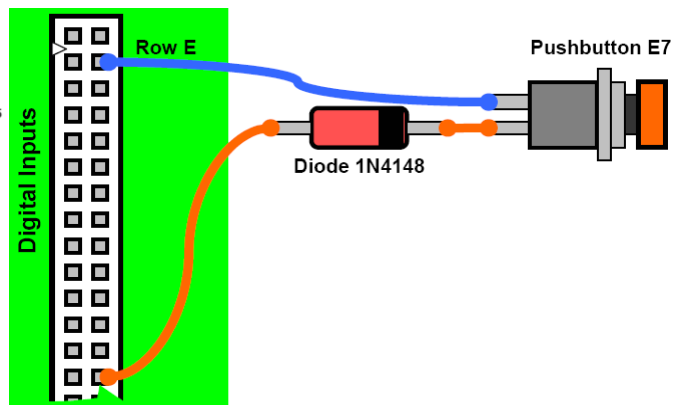
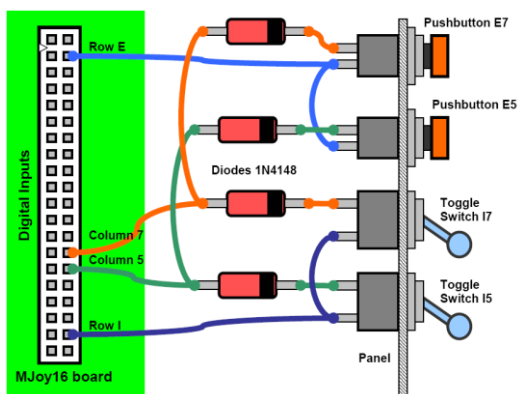
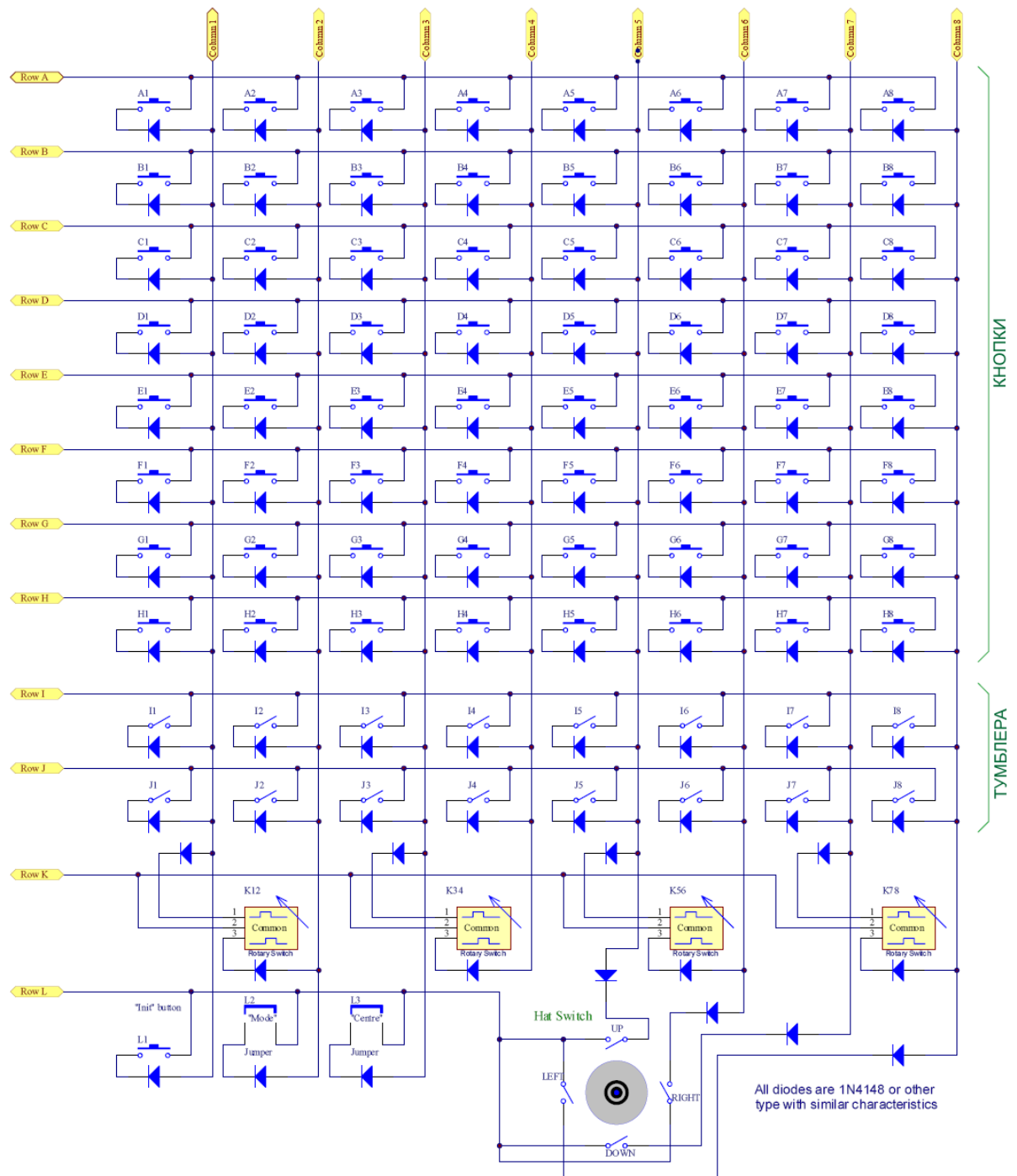
If you connect buttons, toggle switches, and others.

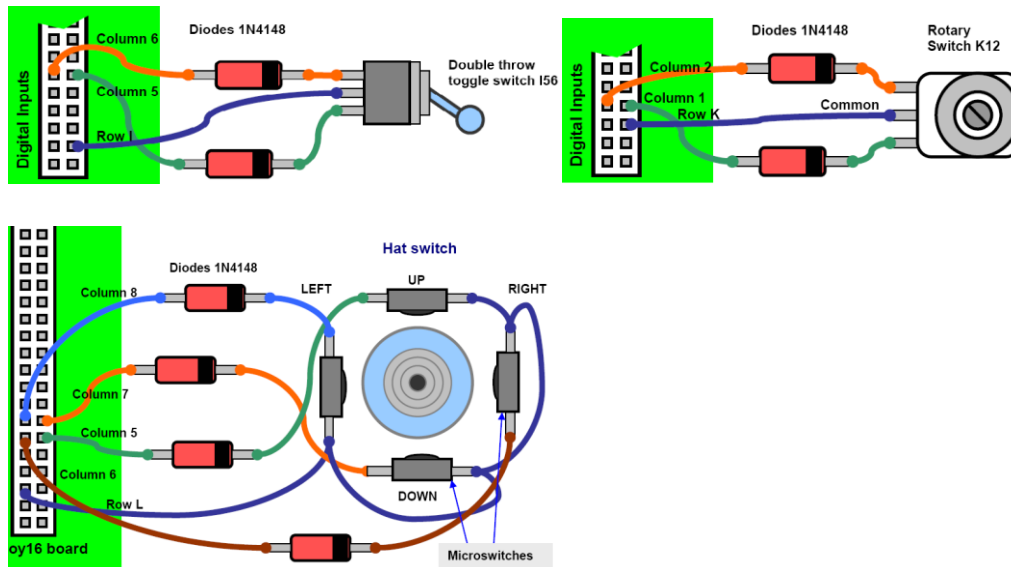
Do not use diode array when you connect the buttons necessary to use diodes 1N4148 or equivalent.

Diode 1N4148



	A	B	C	D	E	F	G	H	I	J	K	L
8	Кнопка 8	Кнопка 16	Кнопка 24	Кнопка 32	Кнопка 40	Кнопка 48	Кнопка 56	Кнопка 64	Тумбл. 8	Тумбл. 16	Энкод. 4	Хат-лево
7	Кнопка 7	Кнопка 15	Кнопка 23	Кнопка 31	Кнопка 39	Кнопка 47	Кнопка 55	Кнопка 63	Тумбл. 7	Тумбл. 15		Хат-низ
6	Кнопка 6	Кнопка 14	Кнопка 22	Кнопка 30	Кнопка 38	Кнопка 46	Кнопка 54	Кнопка 62	Тумбл. 6	Тумбл. 14	Энкод. 3	Хат- прав
5	Кнопка 5	Кнопка 13	Кнопка 21	Кнопка 29	Кнопка 37	Кнопка 45	Кнопка 53	Кнопка 61	Тумбл. 5	Тумбл. 13		Хат- верх
4	Кнопка 4	Кнопка 12	Кнопка 20	Кнопка 28	Кнопка 36	Кнопка 44	Кнопка 52	Кнопка 60	Тумбл. 4	Тумбл. 12	Энкод. 2	
3	Кнопка 3	Кнопка 11	Кнопка 19	Кнопка 27	Кнопка 35	Кнопка 43	Кнопка 51	Кнопка 59	Тумбл. 3	Тумбл. 11		Центр
2	Кнопка 2	Кнопка 10	Кнопка 18	Кнопка 26	Кнопка 34	Кнопка 42	Кнопка 50	Кнопка 58	Тумбл. 2	Тумбл. 10	Энкод. 1	Моде
1	Кнопка 1	Кнопка 9	Кнопка 17	Кнопка 25	Кнопка 33	Кнопка 41	Кнопка 49	Кнопка 57	Тумбл. 1	Тумбл. 9		Инит





Using the controller

The controller connects to the USB port on your computer using the USB-B cable (with the help of this cable to connect the printer YuSbi) if the controller board installed USB-B connector..



If the on-board USB-B connector of the controller is not established (agreed with the customer), the USB cable unsoldering according to the table:

Conclu sion	Name	wire color	Description
1	VCC	red	+5B
2	D-	white	data -
3	D+	green	data -+
4	GND	black	Earth

Cable is best to apply as soon as you can use.

Reset calibration

If you need to reset the calibration (recalibrate the controller) controller:

1. disconnect the controller from the computer (remove razm YuSbi);
2. Press and hold the «Init» (INIT) - L-1;
3. hold «Init» button to connect the controller to a computer via USB.

Calibration

To calibrate all controls (axis), just move all the controls on the maximum deflection angles several times when you first connect the controller to a computer.

"Center" Jumper

The axes X, Y and Rx have avtotsentrovki function. These axes are generally used for connecting axes which are centered by means of mechanics. The central position of controls on these axes at the time of the controller connection or turning on the PC is seen as the central controller. To use is necessary to remove the jumper on avtotsentrovki (L-3).

When using the mechanics without centering function avtotsentrovki best to disable the jumper by placing "Center» (L-3).

Jumper "vogue"

When you remove the jumper "vogue» (L-2) counting the buttons are at the beginning, and then toggle switch and encoder, if the jumper 'Vogue' set the first will go encoders, toggle switch, and then the button.

"INIT" button

Button "INIT» (L-1) better display on the control panel.

It can be used to reset the calibration and testing of position toggle switches as described above.

Appointment buttons, toggle switches, encoders (Rotary switches) programs

Buttons are used in other devices (on the circuit) one click - one action.

Toggle switches work as two buttons in one switch, you switch the toggle switch in the OFF position, the generation of one-time push of a button, and when you switch the toggle switch to the ON position are generated one-time pressing another button.

Pressing the "INIT" button, the generation of the effect toggle switch to its current position, it is necessary to bring the virtual cockpit to the actual provisions of the toggle switches on your console.

Encoders operate on the principle of the wheel in a computer mouse. When rotating in the same direction is generated by pressing one button while rotating in the opposite direction, pressing another button is generated.

Pay attention to the fact that Windows sees no more than 32 buttons on the device, so to use the buttons from 33 to 64, toggle switches and encoders must use what may be a "mapper" for the buttons. Personally, I use SVMapper.

Errors in operation and troubleshooting

Problem	Possible solutions
1. When you connect the controller to a computer defined in Windows such as "9 axes 112 buttons to switch the cap" or "N # 16" instead of "MJ16" (MDzhoya standard controller names consist of four characters)	Sometimes it happens, in principle, it does not affect the operation of the controller is correct, but if you still want to display the name correctly do the following: - Disconnect the controller from the computer; - Run a program on your computer to edit the registry, such as the built-in regedit; - Depending on the operating system, go through the following lines, and delete information relating to the incorrect name: For Win7 HKEY_CURRENT_USER \ System \ CurrentControlSet \ Control \ MediaProperties \ PrivateProperties \ Joystick \ OEM \ HKEY_USERS \ S-1-5-21-746734902-2705693313-2236060973-1000 \ System \ CurrentControlSet \ Control \ MediaProperties \ PrivateProperties \ Joystick \ OEM \ HKEY_LOCAL_MACHINE \ SYSTEM \ ControlSet001 \ Control \ MediaProperties \ PrivateProperties \ Joystick \ OEM \ HKEY_LOCAL_MACHINE \ SYSTEM \ ControlSet002 \ Control \ MediaProperties \ PrivateProperties \ Joystick \ OEM \ HKEY_LOCAL_MACHINE \ SYSTEM \ CurrentControlSet \ Control \ MediaProperties \ PrivateProperties \ Joystick \ OEM \ For Win XP HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Media Properties\PrivateProperties\Joystick\OEM HKEY_LOCAL_MACHINE\SYSTEM\ControlSet002\Control\Media Properties\PrivateProperties\Joystick\OEM