

The download cable XB-XUP USB-JTAG is connected to USB port of a personal computer and carries out:



- configuration a family of FPGA Xilinx, making in accordance with the technology of SRAM: Virtex-II, Virtex E, Virtex, Spartan-6, Spartan-3E, Spartan-3;
- programming a family of CPLD Xilinx, making in accordance with the technology of EEPROM: CoolRunner-II, CoolRunner XPLA3, XC9500XL, XC9500;
- programming of configurative PROM: XCF01, XCF02, XCF04, XCF08, XCF16 and XCF32.



Figure 1. General view of the download cable XB-XUP USB-JTAG

Download cable supports a wide range of supply logic levels from 1.5 to 5 V. It provides a quick way in-system programming. You can upload data directly from the design environment Xilinx ISE WebPack. The device is powered from the USB port and additional voltage source is not required. Dimensions LxWxH: 71x41x23 mm.

Block diagram XB-XUP USB-JTAG is shown in the figure 2. All interface lines of 10-contact connector have current limiter in the form of resistors 39 Ohm and integral buffer.

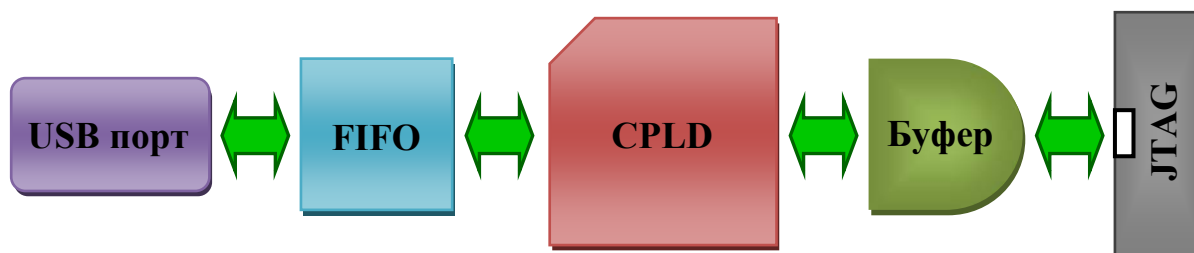


Figure 2. Scheme XB-XUP USB-JTAG

10-contact connector is shown in the figure 3, the purpose of its contacts is shown in the table 1.

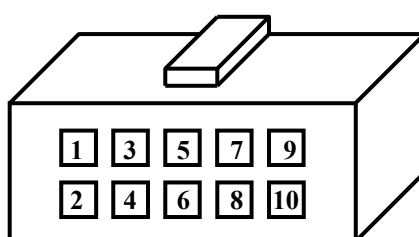


Figure 3. The view of 10-contact connector XB-XUP USB-JTAG

Table 1

Outputs designation of the 10-contact connector of XB-XUP USB-JTAG

Contact	Designation	Description
1	Vref	Supply voltage
2	GND	"Earth"
3	TCK	Clock signal
4	TDO	Data output
5	TDI	Data input
6	TMS	Control of the final automatic machine JTAG
7-9	-	Does not use
10	INIT	Signal output INIT_B

Pinout 1 (Vref) 10-contact cable XB-XUP USB-JTAG must be connected to specified supply level that is depended on the group of programmable and configurable devices.

The kit XB-XUP USB-JTAG has loops IDC-10 – IDC-10, IDC2-14 – IDC2-14 and adapter IDC-10 – IDC2-14 (figure 4). The adapter allows using

the download cable for programming development boards of the company XiBoard (plug IDC-10) and also boards of other manufactures with configurable connector IDC2-14.

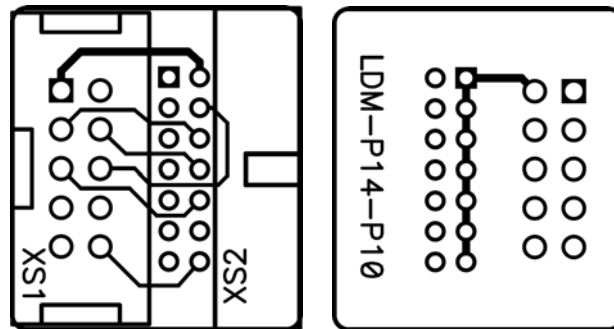


Figure 4. Type of the adapter IDC-10 – IDC2-14 (Up and down)

Figure 5 shows the scheme of the adapter IDC-10 – IDC2-14.

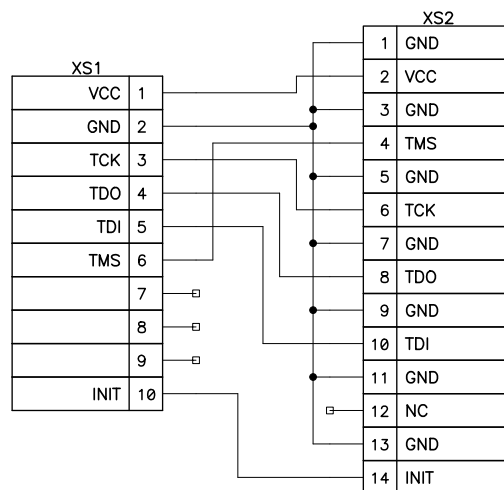


Figure 5. The scheme of the adapter IDC-10 – IDC2-14

Packaging arrangements:

- Download module XB-XUP USB-JTAG;
- Cable miniUSB;
- Loop IDC-10 – IDC-10;
- Adapter IDC-10 – IDC2-14;
- Loop IDC2-14 – IDC2-14;
- Disk CD-R with the description of the download cable, examples of projects for Xilinx ISE WebPack, description of the family of FPGA Xilinx.