WDK1 Wissam Development kit user manual

WDK1 Kit Features:

- PonyProg2000 Compatible.
- Parallel connector Interface to PC for Programming.
- Regulated Power Supply for 7.5-9V DC Power.
- Socket for 40-pin (AT90S8515-AT90S4414- Atmega8515) AVR Device.
- Serial In-System Programming (ISP).
- Reprogramming of AVR Part (AT90S8515-AT90S4414- Atmega8515).
- 8 Push buttons can be connected to any port as inputs.
- 8 LEDS can be connected to any port as outputs.
- All AVR I/O Ports Easily Accessible Through Pin Header Connectors.
- Additional RS232 Port for General Use.
- Additional terminal blocks for 8 external inputs.
- Additional terminal blocks for 8 external outputs.

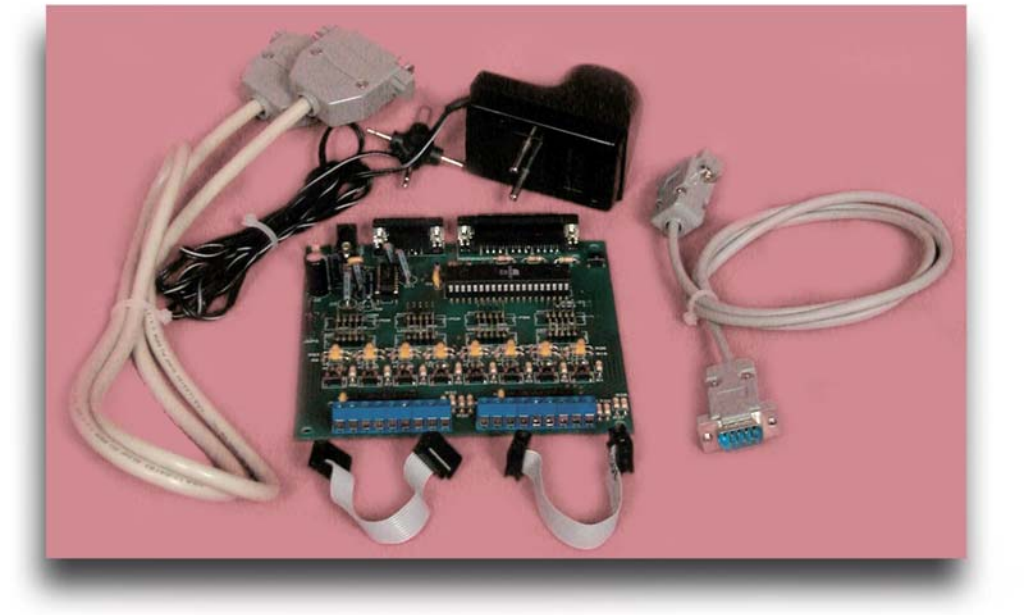


Figure 1

E-mail : support@wissamelectronics.com
Internet site : http://www.wissamelectronics.com

WDK1 Wissam Development kit user manual

Unpacking The System

The box contains:

- WDK1 starter kit evaluation board.
- WDK1 user guide.
- Cables for WDK1:
    - 2 pcs 10-wire cables for I/O ports.
    - 9-pin RS-232 Cable.
    - 25-pin parallel Cable for programming.

System Requirements

The minimum hardware and software requirements are:

- 486 Processor (Pentium is recommended)
- 16 MB RAM
- 7 MB Free Hard Disk Space
- Windows ® 95, Windows 98, Windows NT 4.0 or higher, or Windows 2000
- 115200 baud RS-232 port (COM port)
- 7.5-9V DC power supply, 300mA min

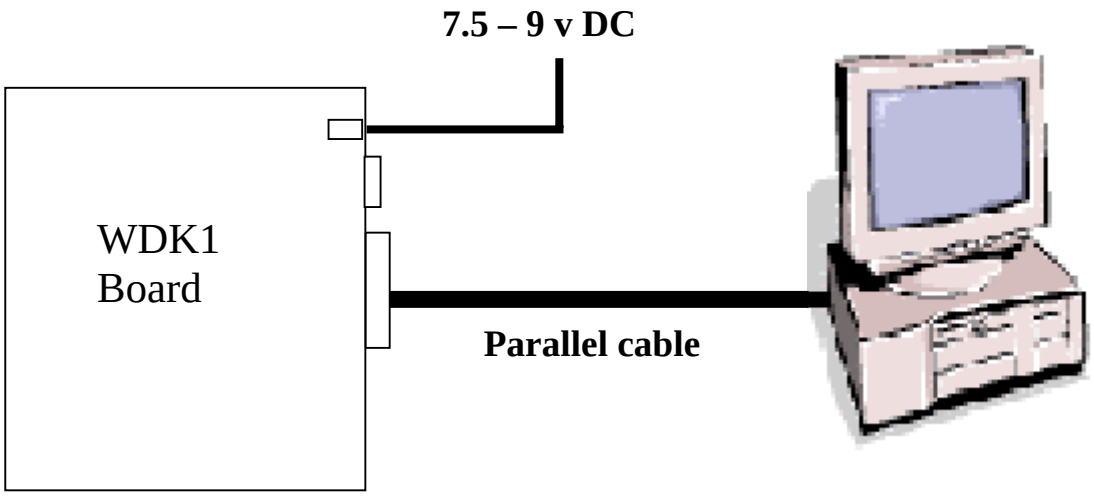


Figure2

E-mail : support@wissamelectronics.com
Internet site : http://www.wissamelectronics.com

WDK1 Wissam Development kit user manual

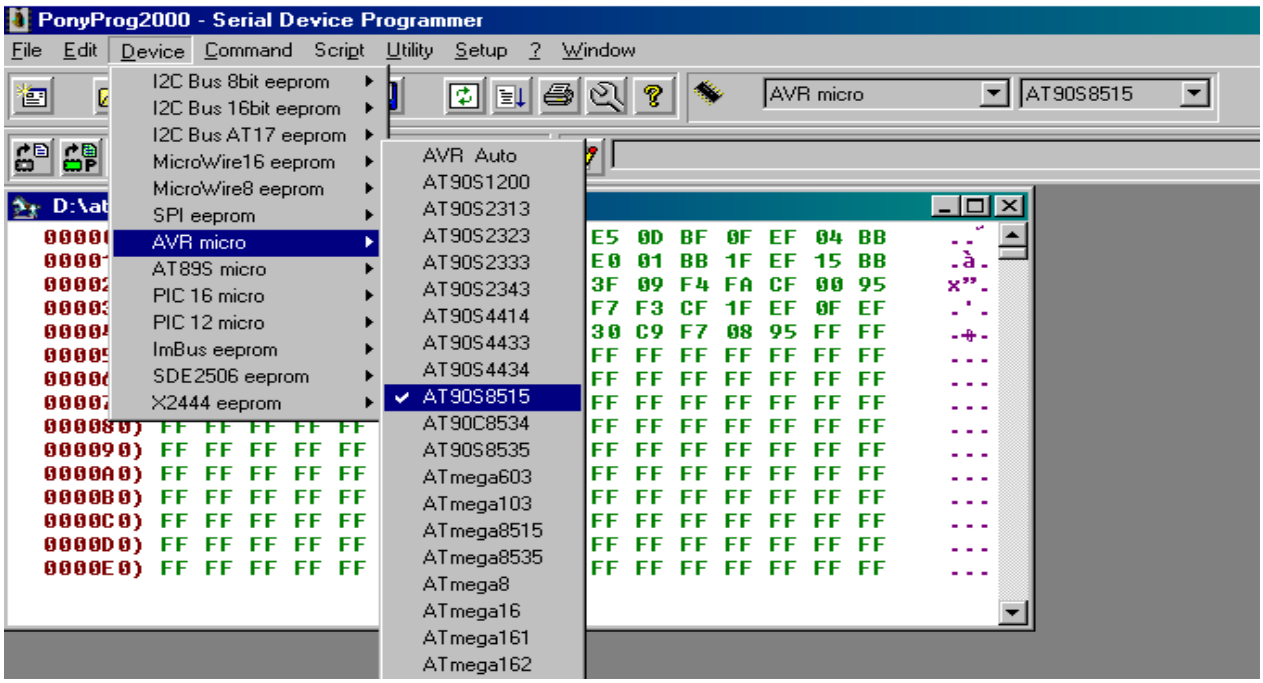
To Program Your Device

1-Connect the 7.5-9V DC power supply to **POWER-JACK** as shown in the figure1
2-Connect a parallel cable to the connector marked **PROGRAMMING-CON** on the evaluation board to the parallel port on the PC as shown in the figure1.
3- Install ponyprog2000 software on the PC.

Programming The Target AVR Device

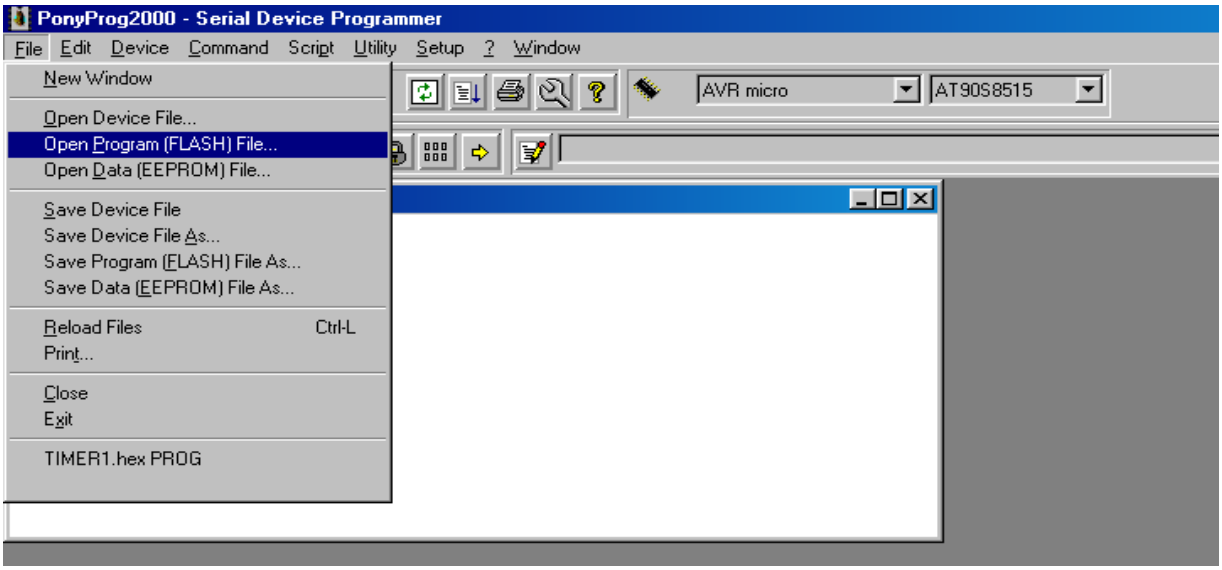
WDKT1 is controlled from ponyprog2000, to program a hex file into the target (AT90S8515-AT90S4414- Atmega8515) device.

1- Select **"AVR micro"** from the Device menu in **ponyprog2000.**
2- Select **AT90S8515** target device for example.

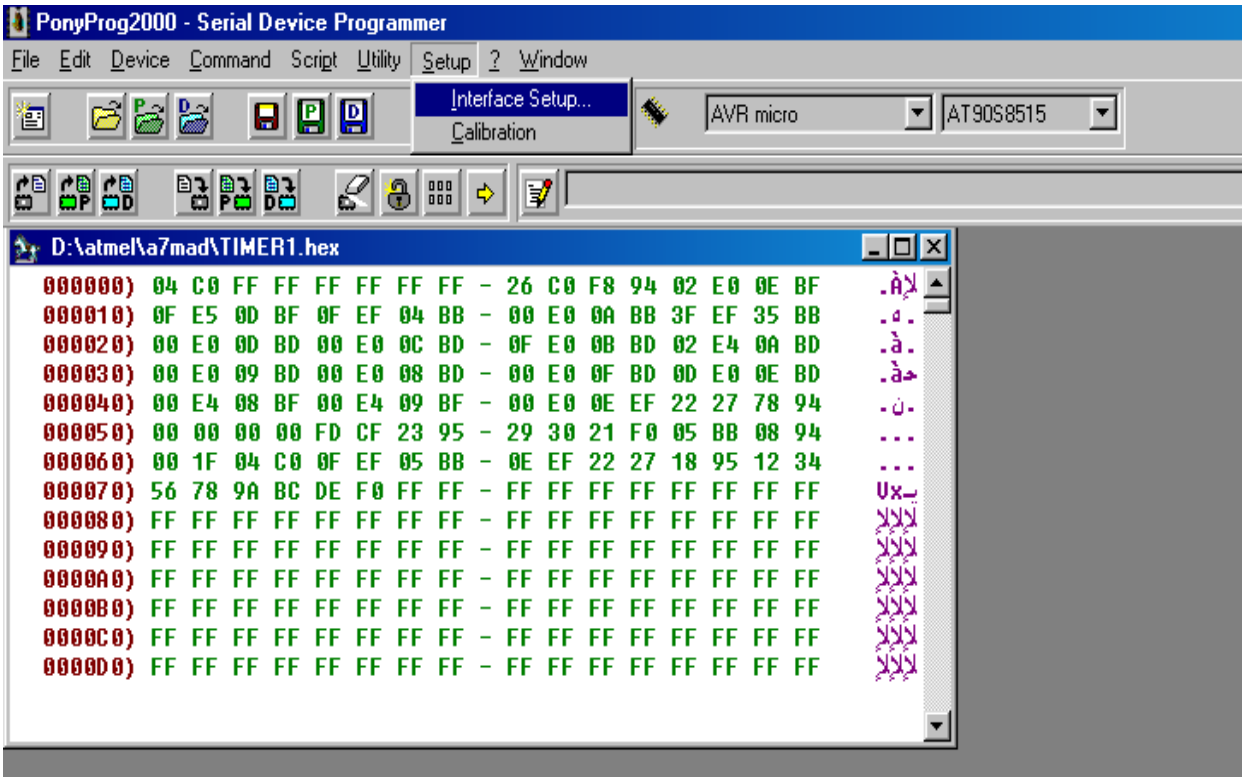


E-mail : support@wissamelectronics.com
Internet site : http://www.wissamelectronics.com

3- Select **“Open program flash file”** from **File** menu then navigate to your hex file .

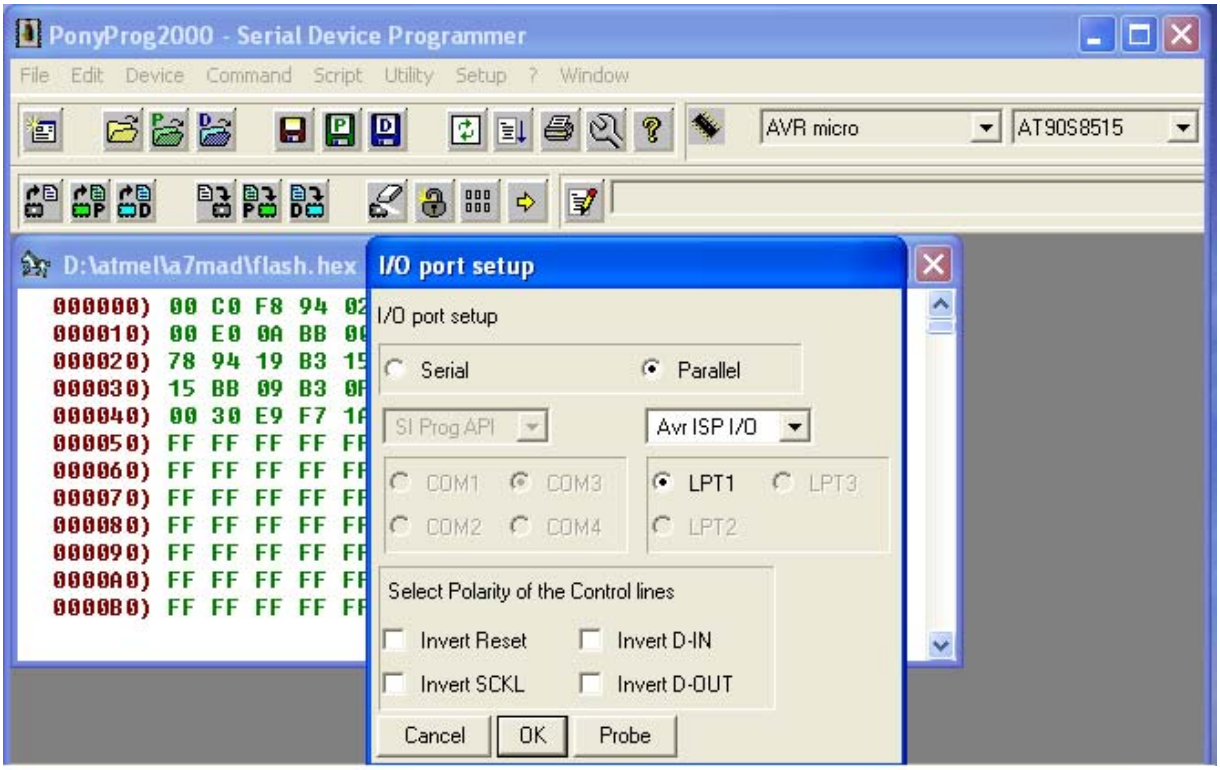


4- select **“Interface setup”** from **Setup** menu.

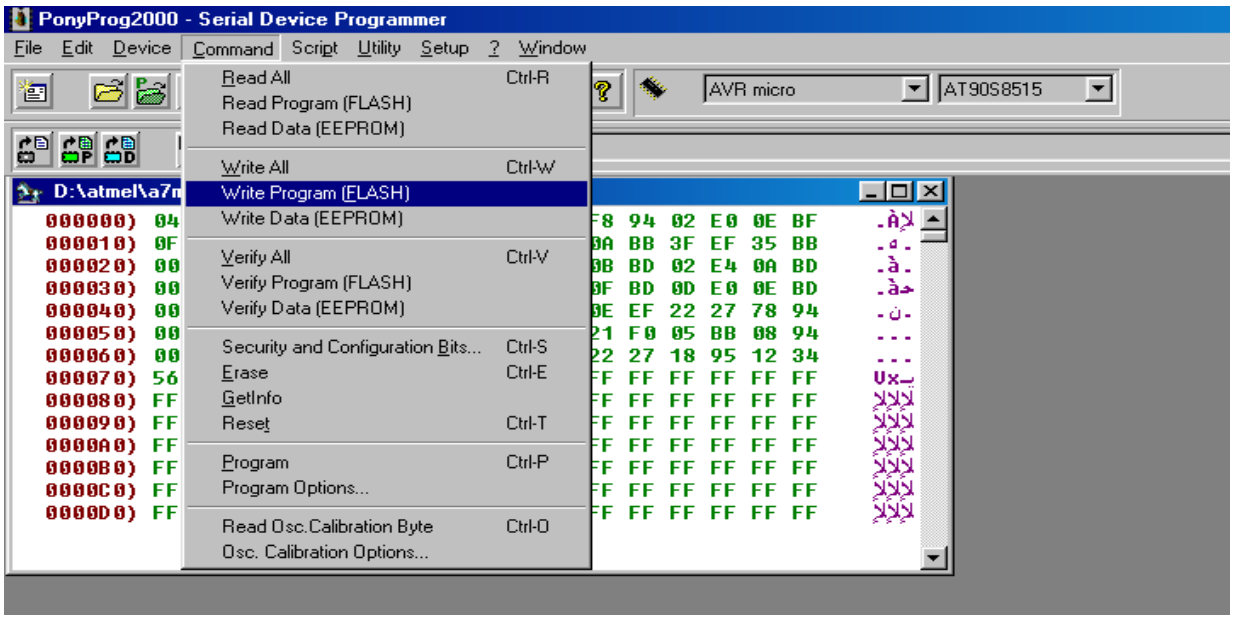


E-mail : support@wissamelectronics.com
Internet site : http://www.wissamelectronics.com

5- Select **"parallel"** interface then **LPT1.**



6- Open **Command** menu then select **write program [Flash]**



E-mail : support@wissamelectronics.com
Internet site : http://www.wissamelectronics.com

Description Of User Leds

The WDK1starter kit includes 8 LEDS and 8 push button switches. The LEDS and switches are connected to debug headers that are separated from the rest of the board. They can be connected to the AVR devices with the supplied 10-wire cable to the pin header of the AVR I/O ports.
The figure4 shows how the LEDS and switches can be connected to the I/O ports header. The cables should be connected directly from the port header to the LED or switch header. The cable should not be twisted. The figure3.a shows how the LED is implemented.
The figure3.b shows the **LEDS-CON.**

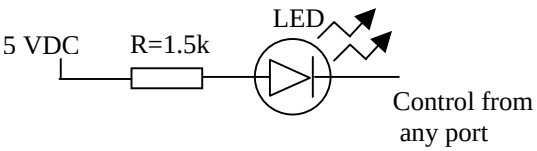


Figure3.a

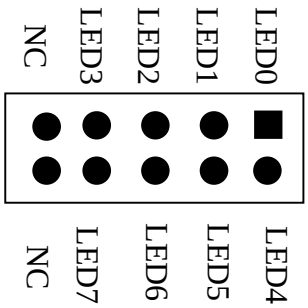


figure 3.b (**LEDS-CON**)

Description Of User Switches

The Switches connected to the debug headers are implemented as shown in the figure below. Pushing a switch causes the corresponding SWx to be pulled low, while releasing it will result in +5V on the appropriate Switch header connector.

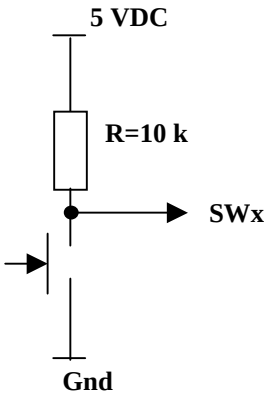


Figure4.a

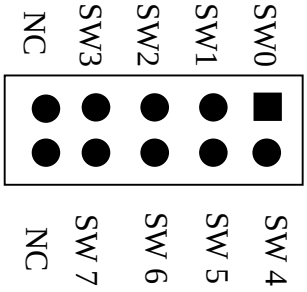


Figure4.b (SWITCES-CON)

E-mail : support@wissamelectronics.com
Internet site : http://www.wissamelectronics.com

Connection Of LEDS And Switches

Any I/O port of the AVR can be connected to the LEDS and switches using the 10-wire cables.

Figure 5

Rs232 And Jumpers

The WDK1 includes one **RS232** port. This port is can be used for communication between the target AVR microcontroller in the socket and a PC serial port connected to the **RS232**. To use the **RS232,** the UART pins of the AVR needs to be physically connected to the **RS232** this done by putting the **JMP1**& **JMP2** (UART jumpers) as shown in figure 6

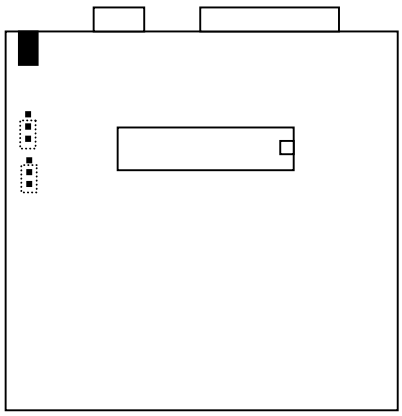


Figure 6

E-mail : support@wissamelectronics.com
Internet site : http://www.wissamelectronics.com

Ports Connector

The pinout for the I/O ports headers is explained in the figure Figure 7 below. The square marking indicates pin 1.

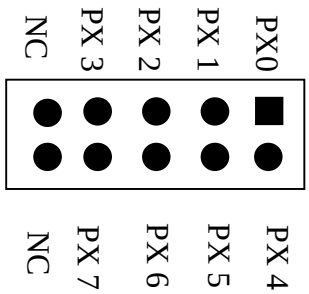


Figure 7 (**PORTX-CON)**

Input & Output Terminal Blocks

The WDK1 includes two terminal blocks. One terminal block can be used for 8 external inputs. The other can be used for 8 external outputs.
If you want to connect external inputs to any AVR I/O port (say portA), you will just connect the "**EXT-INPUT**" and "**PORTA-CON**" with the supplied 10-wire cable. Then connect your external input to "**EXT-INPUT-CON"**
If you want to connect external outputs to any AVR I/O port (say portC), you will just connect the "**EXT-OUTPUT**" and "**PORTC-CON**" with the supplied 10-wire cable. Then connect your external output to "**EXT-OUTPUT-CON"**
The cables should be connected directly from the port header to the external inputs/outputs header. The cable should not be twisted.

E-mail : support@wissamelectronics.com
Internet site : http://www.wissamelectronics.com

WDK1 Lay Out

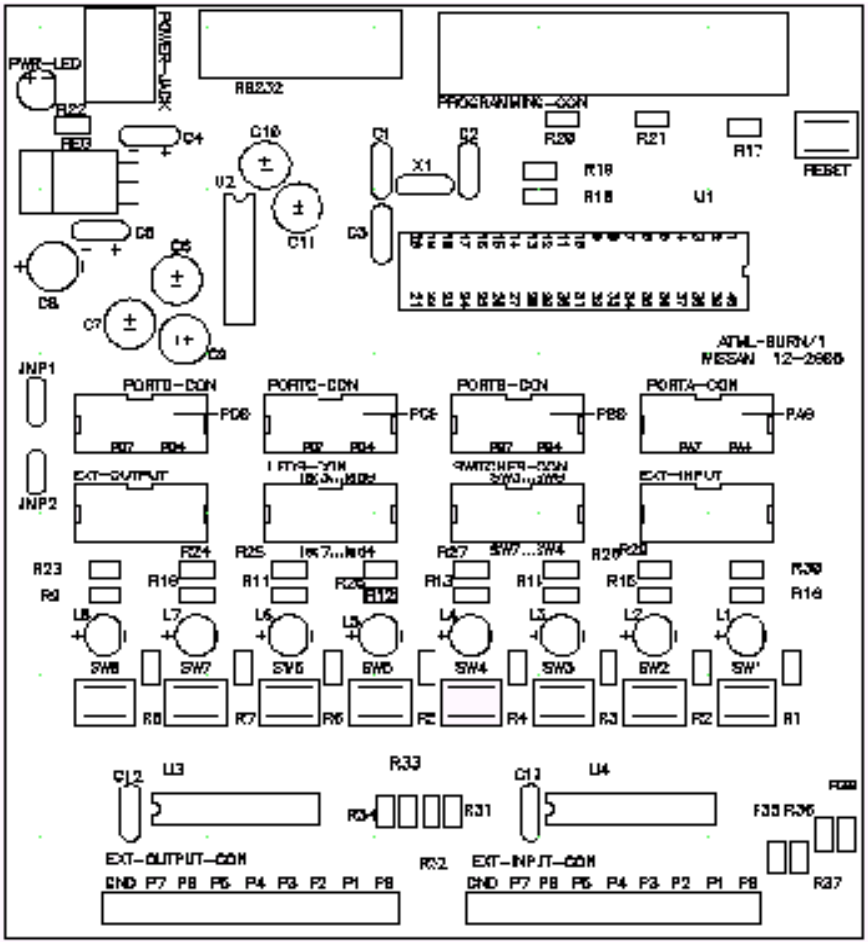


Figure8 (WDK1 lay out)

E-mail : support@wissamelectronics.com
Internet site : http://www.wissamelectronics.com