

AVR DMX-512 DONGLE FOR PC's

- **EASY** to build readily desinged PCB or proto board
 - **CHEAP**, no expensive parts
 - **SEND** and **RECEIVE** DMX **SIMULTANEOUSLY**
 - **255** output channels
 - **127** input channels
 - Connects to computer **parallel port**
 - **EASY** implementation to control software
 - **POSSIBLE** to load default boot up scene to dongle
 - **All sourcecodes available!**
 - **NOTE! There was an error in bill of materials
R1 and R2 should be 470ohms**
-

DISCLAIMER!!

I don't take any responsibility if YOU destroy your PC or any data loss or anything!!!

This desing is NOT FREEWARE, it can used freely personal and educational use.

All copyrights are reserved by Kari Viitala

Introduction

AVR DMX-512 dongle is simple interface between DMX-512 equipments and personal computer. Dongle is connected to computer parallel port. Dongle can transmitt 256 channels and receive 128 channels dmx data simultaneously. Received dmx data can merged to incoming computer data (highest takes precense) and data can be read to computer. DMX data transmitter and receiver works even if computer locks up, also it is possible to load dongle internal memory default boot up scene. Default scene is transmitted after dongle has been powered up.

Hardware

AVR DMX-512 dongle uses [Atmel](#) AT90S8515 AVR microcontroller as a DMX engine. It has 8k code memory and 512 bytes SRAM and EEPROM. Controller is in circuit programable, it means that programming can be done when controller has been attached to the board. Suitable programmer is for example STK200 which is supplied with AVR development kit or it can be also bought from [Kanda Systems](#) also any other programmer can be used. Connections to DMX-512 buses is done using "industry standard" RS-485 transceiver circuit SN75176B. Connection to PC's parallel port is done 25pin D-connector. There are current limiting resistors between microcontroller and parallel port to protect overcurrents.

Software to dongle is written using C. I used [Imagecraft](#) AVR C-compiler. Fully working time limited demo version of their compiler can be downloaded their web site. You don't need to compile code if you don't want, I have attached compiled code to the packet. Description about communication protocol between PC and dongle can be found from downloaded package.

I have also made test program for the dongle. Using test program you can set channel values and view incoming dmx data. Test program is written in Visual Basic 5.

Both testprogram and avr sourcecodes can be downloaded from [downloadpage](#).

Last words...

If you make application software for my dongle or you have comments about AVRDMX feel free to send me email.

[VIEW SCHEMATICS \(jpg, 110kB\)](#)

[VIEW AVRDMX DONGLE](#)

[Click here to download AVRDMX information!](#)