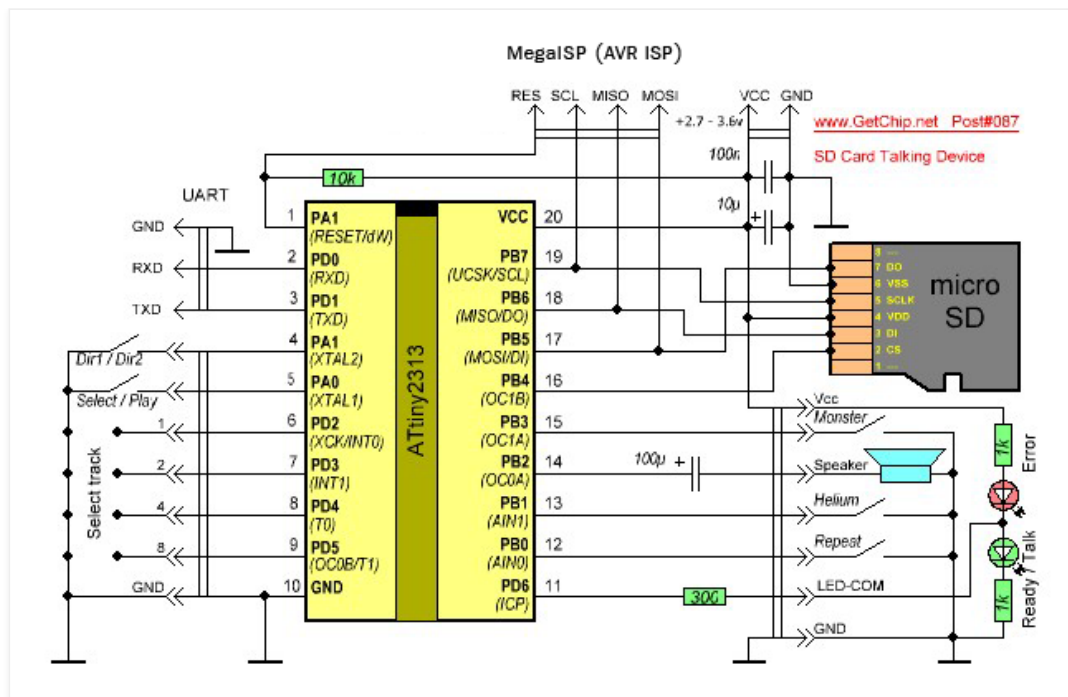


txyz.info

Thursday, November 8, 2012

Very advanced AVR attiny2313 WAV music player. Read files from SD card / microSD / MMC.





Player controls: **UART** or/and **One button "Select / Play"** or/and **binary code "Select track"**

Pinouts and Switches

UART - send upper symbol "A" to start first track, "B" for second, etc... (check below for more info). To stop playback enter any other symbol.

Dir1 / Dir2 - Select directory with WAV files. Required 2 directory with names "1" and "2". Dir "1" selected by default

Select / Play - button launches a track to play. One click play first track, double click second, etc...

Select track - play track by binary code. If 0001 play first track, if 0010 play second, etc... [Counting in binary](#)

Monster - can slow (2 times) track play. The switch works "on the fly"

Helium - speeds up the track (1/3). The switch works "on the fly"

Repeat - if the switch is shorted to ground, the selected track will be forever played.

Debug LED information

The red LED flashes - no SD card or its type is not supported by the device

Red LED lights - SD card is supported and successfully initialized, but the card was not formatted in FAT16

Green LED lights - SD card is initialized successfully, locate the file system and the device is ready to play a track - waiting for the team

Green LED flashes - the device plays the track

The green goes to red, the green again - not found a track

The green briefly goes out and the green again - pressed to choose track

Debug UART information

After each successful step in the UART sends the appropriate symbol:

S - (Start) of the microcontroller peripherals initialized properly

C - (Card Init) SD card is initialized properly and supported

F - (FAT Init) FAT system is supported

1 - (No 1 Dir) no folder "1" is read from the root directory

2 - (No 2 Dir) no folder "2" will be read from the root directory

R - (Ready) the device is fully ready. Waiting for the command to start the track

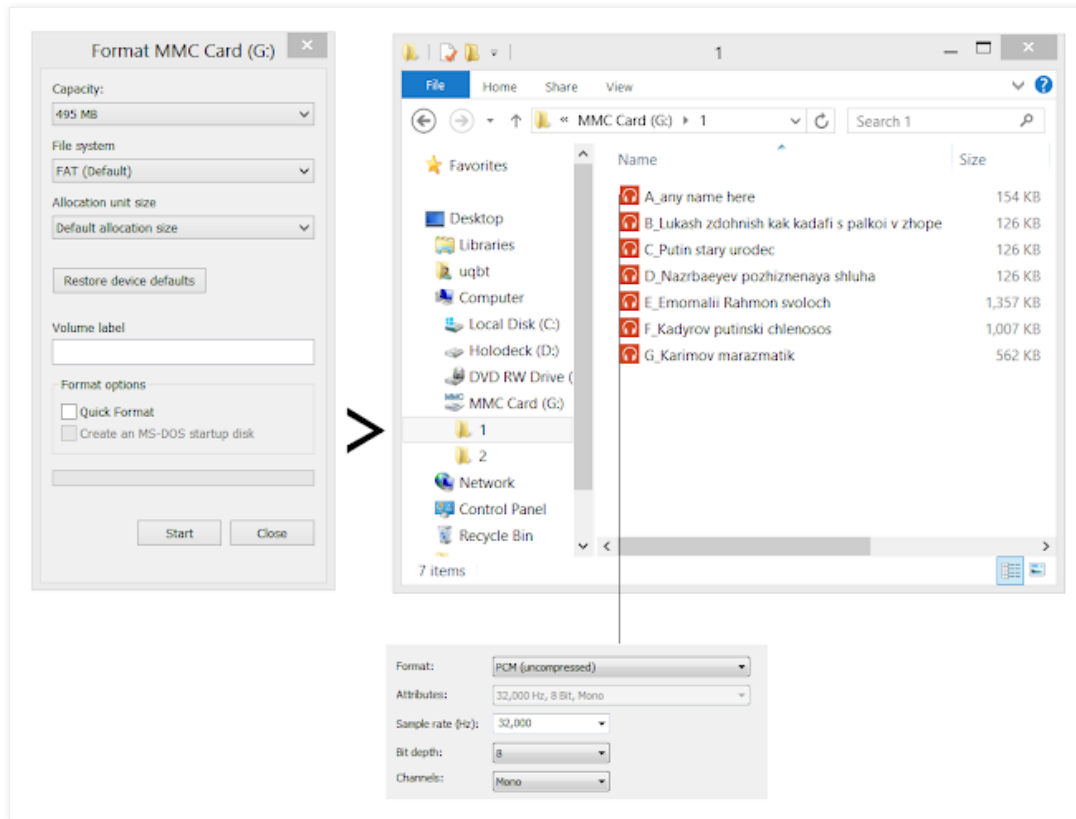
In addition, each time a track is transferred to the UART capital track name.

File system and WAV file format

microSD/SD/MMC card must be formatted in FAT16. 2GB maximum supported flash card size.

WAV file should be Mono with 32000Hz Sample rate and 8 Bit Depth.

In order for the unit knew what file first, second, third, etc. the first character of the file name must be uppercase letters (the rest of the name as the file extension - is ignored.)

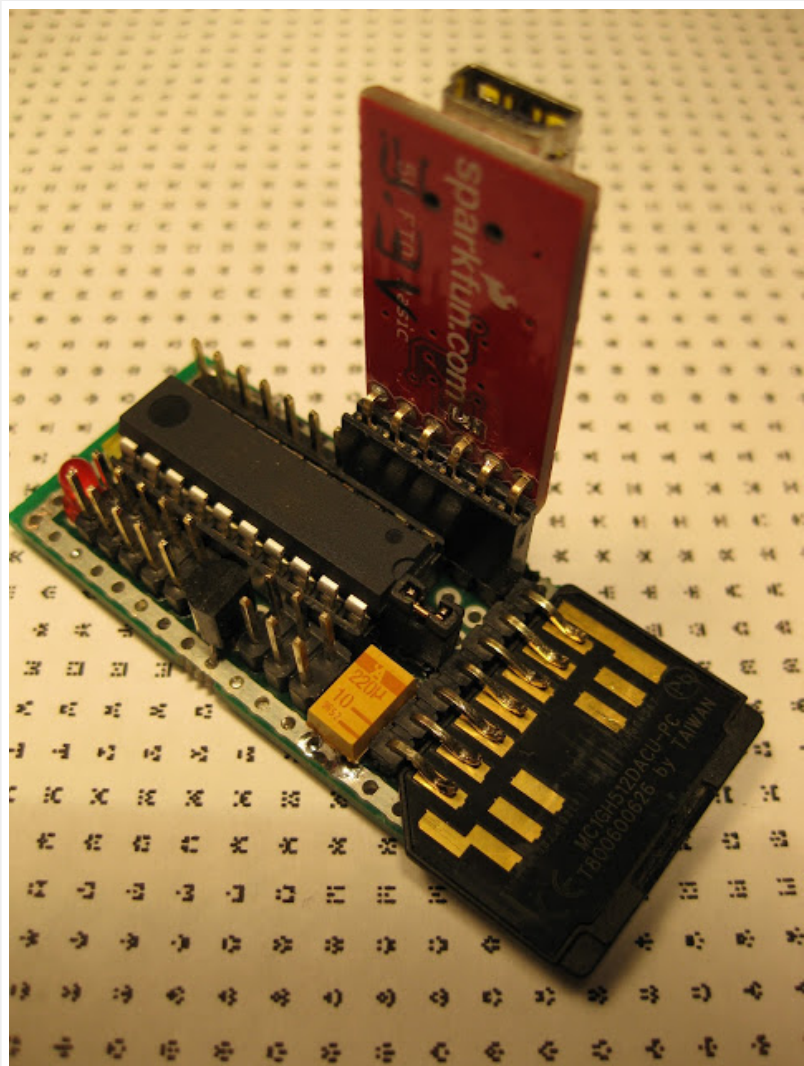


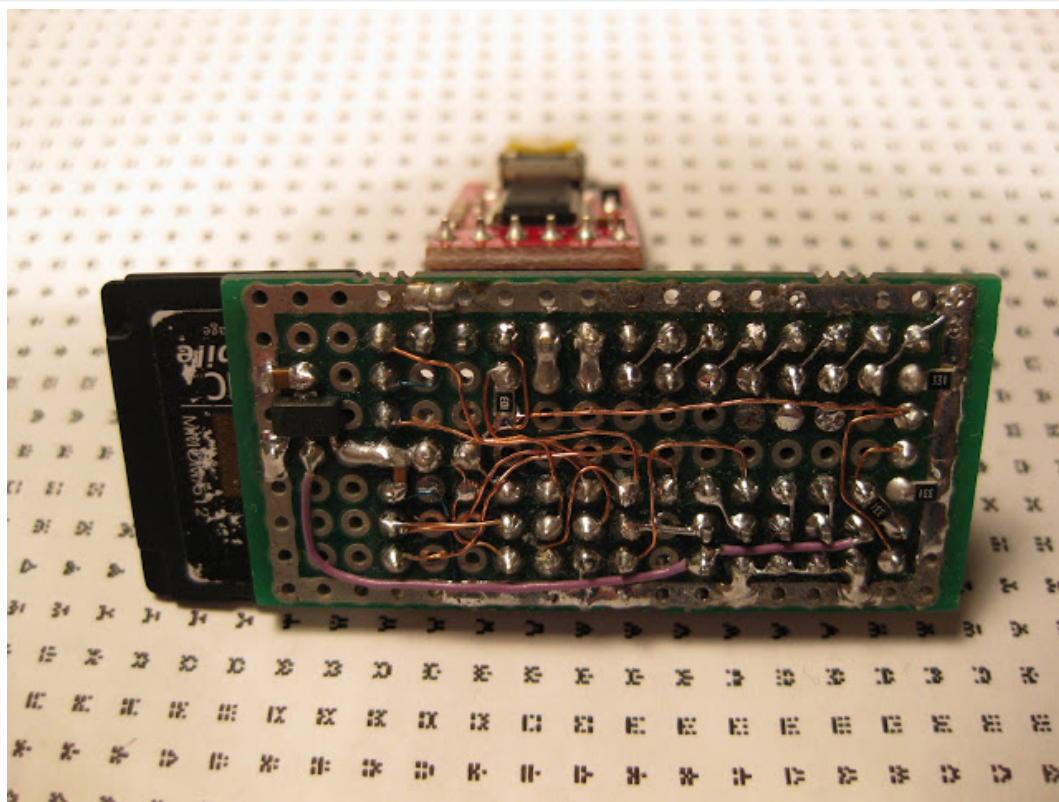
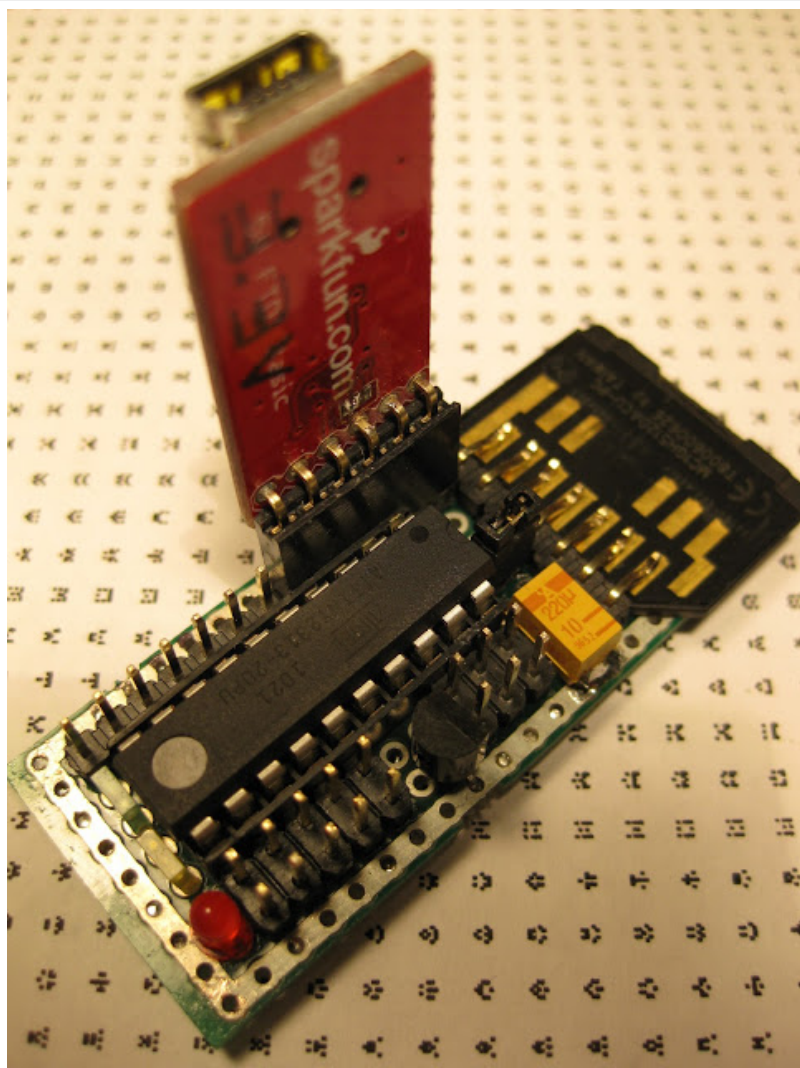
Uploading Attiny2313 WAV player firmware in 4 steps

1. [Build MegalSP \(Arduino based\) AVR programmer](#)
2. [Download and install WinAVR](#)
3. [Download WAV player firmware \(.hex file inside zip archive\)](#)
4. Open terminal and run next command: `avrdude -c avrisp -b 19200 -P com13 -p t2313 -U lfuse:w:0xe4:m -U hfuse:w:0xdf:m -U flash:w:SDC_Talking.hex`

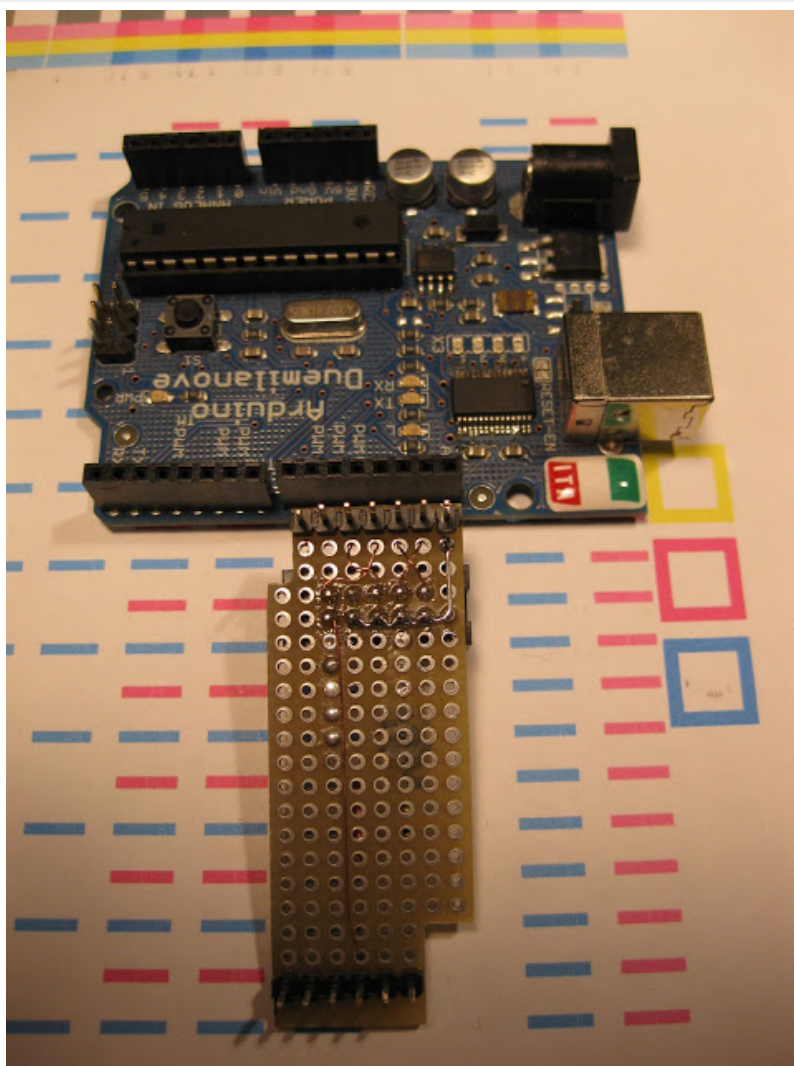
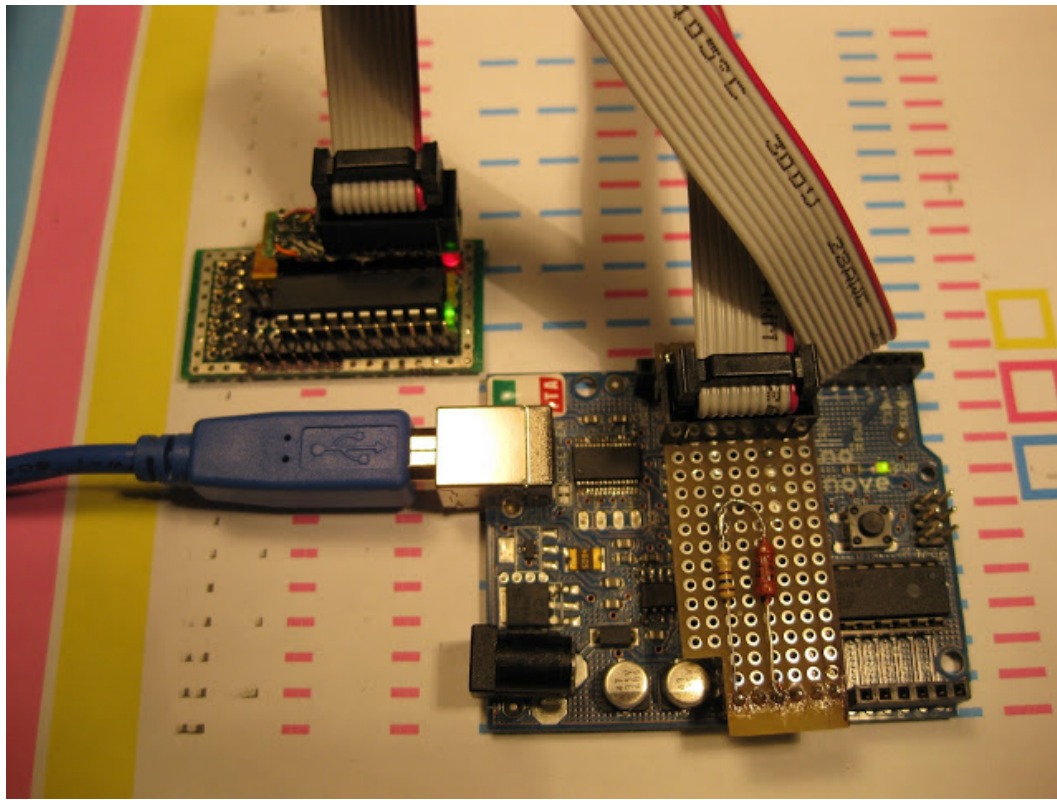
My device photos

AVR Attiny2313 WAV player with Sparkfun FTDI attached





Arduino as AVRISP programmer



Credits and source code original

[I post](#)
[source code download](#)

16 comments:



Peuchele said...

Congratulations, this is excellent! what kind of speaker did you use, I can't see it in the video, is it a regular 8ohms?

November 11, 2012 at 9:49 AM



txyz.info said...

yes, you can use regular 8ohms speaker.
or you can use one transistor amplifier <https://lh5.googleusercontent.com/-0igQE9ob2w/UKBUoPRU-8I/AAAAAAAAADw/zJh6l4O6fGg/s637/attiny2313%2520with%2520transistor%2520amplifier.png>
with the same 8ohm speaker to make it louder.

November 11, 2012 at 6:05 PM



elerepair@gmail.com said...

nice playlist you got there.. :D

November 11, 2012 at 6:27 PM



Tyler said...

Love the project. I'm running into an issue with your source.
When I download it, it unzips to an spl7 file.

What IDE did you use for development?

November 13, 2012 at 10:22 AM



txyz.info said...

Algorithm Builder - download here <http://algrom.net/>
not my source ;), just my exec.
It's the best AVR WAV player in internet that you can build. from
<http://www.getchip.net/posts/087-attiny2313-sd-card-talking-device/>

November 13, 2012 at 9:48 PM



Nyoman Yudi said...

hi..

i've just finish my version of attiny2313 talking machine

http://www.youtube.com/watch?v=7qa00p_U4Jo

i put the breakdown on <http://aisi555.blogspot.com>

December 12, 2012 at 6:13 PM



dario pescalupi said...

I need to light some leds only when it plays a file.
In the current schematic the green led is blinking so I cannot place a transistor in that pin; there is another pin that goes high only when it plays a sound?
Even on the sd card, it does not matter.
Thank you for a reply

March 16, 2013 at 4:54 PM



Martin said...

Congratulation!
could be any way for make possible power it with only 2 AA batteries?
what is the value and type of the first Vcc conected capacitor, it is not clear in the image 100mF?

Thanks you.

December 15, 2013 at 8:46 AM



Djoko Susilo said...

in Schematic, Pin D0 SDCARD conected to Pin MOSI or MISO on MCU?

December 23, 2013 at 1:34 AM



Hargovan Suthar said...

I have built wav player with 2313,it works fine evew with commands from RX (TX of other micro RENESA)..But only 1 GB sd card is supported in FAT system with 32kb sampling rate.

how can i use 2 gb or 4 gb sd card

H.K. Suthar Ahmedabad
hargovind19@gmail.com

June 16, 2014 at 5:31 AM

Anonymous said...

Hello,

Can I use ATMEGA 8 instead of ATTINY 2313? Share me the schematic and source for the same. Thank you.

July 30, 2014 at 12:51 AM



Hargovan Suthar said...

nikki u send me mail for mega 8

August 9, 2014 at 5:43 AM

Anonymous said...

whats ur e-mail ID?

August 10, 2014 at 2:41 AM



Hargovan Suthar said...

hargovind19@gmail.com
ahmedabad

August 29, 2014 at 5:19 AM



Mahdi Jabbari said...

nice project, I want to build the same thing but i need to play video too which makes it a video player.
can anyone help me with that

October 27, 2014 at 8:25 AM



Laurent Decobert said...

Bonjour, belle réalisation.

Pour info : votre lien de téléchargement du fichier hex semble erroné, il dirige vers une page YouTube contenant votre vidéo, mais pas vers un téléchargement.

Bonne continuation

September 29, 2018 at 3:10 AM

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[How to program ATTINY2313 with USBASP? or/and Uplo...](#)

Very advanced AVR attiny2313 WAV music player. Rea...

Simple theme. Powered by [Blogger](#).