

AVR Mega128
R&D Board ver 1.1

<http://www.compraza.co.kr>

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Contents

1 Introduction of AVR MEGA128 R&D Board

1.1 What is “AVR MEGA128 R&D Board”?

1.2 External connection

1.3 Feature

1.4 Feature of the compiler, ICC AVR C

1.5 Introduction of ATMEGA 128

2 Making AVR MEGA128 R&D Board

2.1 Part List

2.2 Picture of each products

2.3 Circuit

3 For your technical supports

1. Introduction of AVR MEGA128 R&D Board

1.1 What is “AVR ATMEGA128 R&D Board”?

I made this board using AVR ATMEGA128 MCU. It supports power, CPU, Clock, Port, Serial, and user can append or fix this board for their convenience or study. It will be very easy to connect using flat cable via A&F port connector.

1.2 External connection

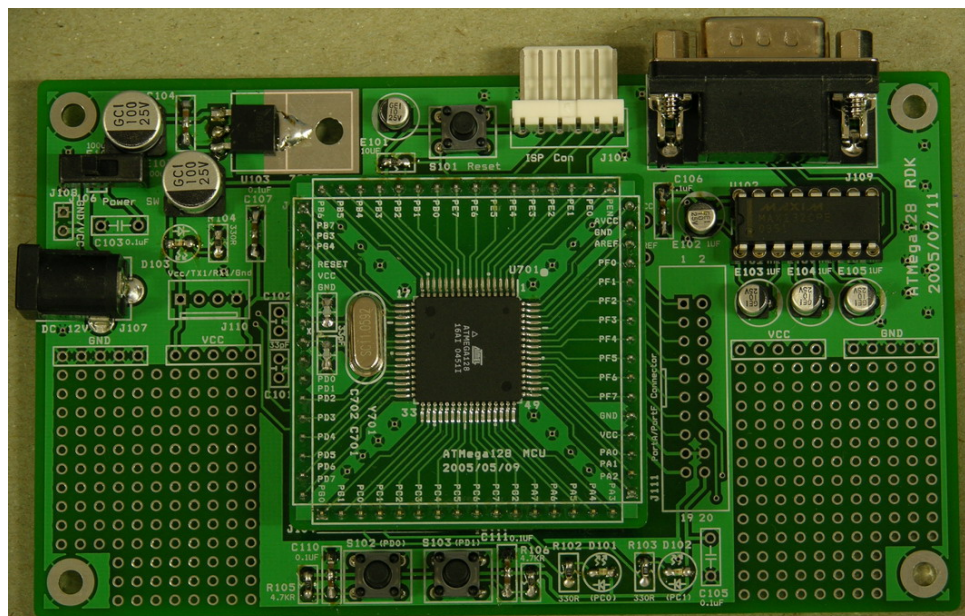
Adaptor using 12V DC

ISP Cable for program download

RS-232 Cable for serial communication

1.3 Feature

- a) 5V DC for working
- b) All of the pins can be used for Test Point, so it is very easy to connect with external circuit
- c) This ATmega128 MCU has almost function of AVR family, so even though user want to develop with other AVR MCU, then this board can be used for advanced R&D board.

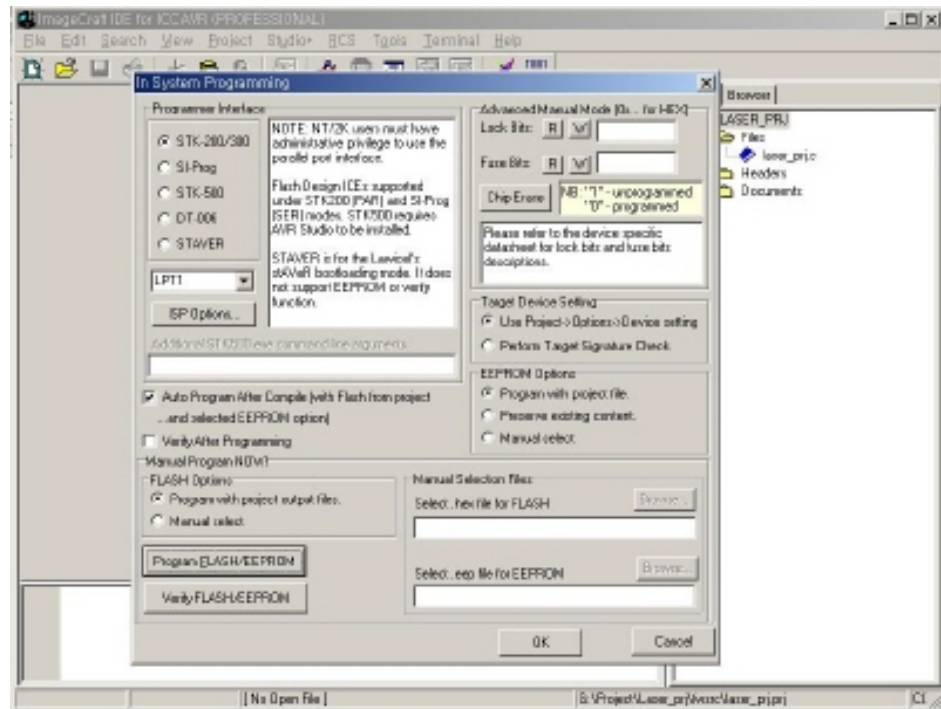


Pic 1. Completed AVR MEGA128 R&D board

1.4 Feature of the compiler, ICC AVR C

Supports for compile & automatic ISP download,

Supports for wizard function, so user can set initial register & source code easily.



Pic 2. Image Craft Compiler – ICC AVR C

Website for demo version of ICC-AVR

1. Go to <http://www.imagecraft.com/software/>
2. Just click “Demos/Upgrades “ of left side menu

1.5 Introduction of ATMEGA 128

MCU Features

- Upto 16 MIPS operation using 16 MHz clock
- On-chip 2-cycle Multiplier
- Supports for ISP (In-System Programming) function
- 4K Bytes Internal SRAM, EEPROM
- 128K Bytes Flash Memory
- Two 8-bit Timer/Counters, Two Expanded 16-bit Timer/Counters
- Real Time Counter with Separate Oscillator
- Two 8-bit PWM Channels
- 6 PWM Channels with Programmable Resolution from 2 to 16 Bits

- 8-channel, 10-bit ADC
- Dual Programmable Serial USARTs
- Byte-oriented Two-wire Serial Interface
- Master/Slave SPI Serial Interface

I/O and Packages

- 53 Programmable I/O Lines
- 64 Lead TQFP

2. Making AVR MEGA128 R&D Board

2.1 Part List

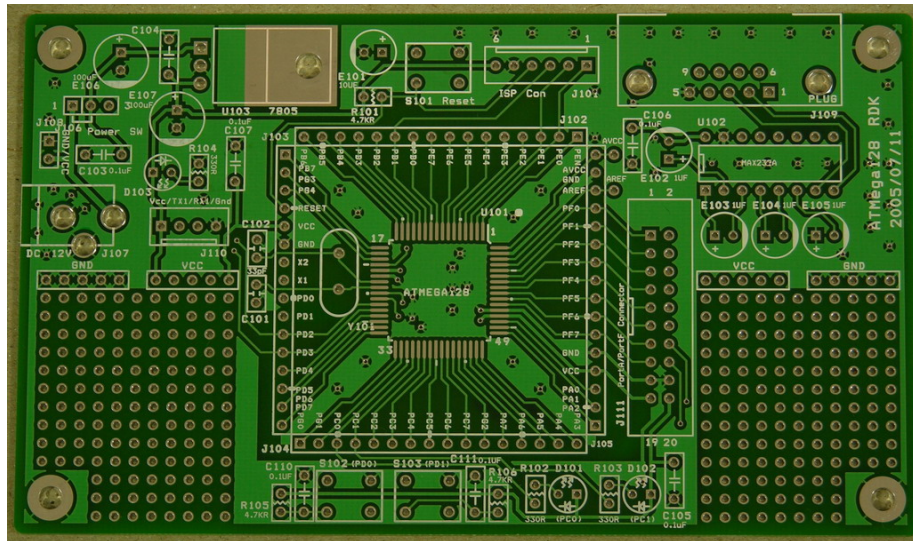
the contents of ATmega128 R&D Board

Item	Part	Number	Part name
1	IC MAX232CPE	1	U102
2	IC Socket DIP 16p	1	U102 Socket
3	MC7805CT	1	U103
4	XTAL 11.0592MHz	1	Y101
5	LED yellow 3mm	2	D101
6	LED green 3mm	2	D102
7	Ceramic condenser 20pF (20)	2	C101,102
8	Ceramic condenser 0.1uF (104)	10	C103~C109
9	Electrolytic condenser 10uF	3	E101
10	Electrolytic condenser 1uF	5	E102~105,501
11	Electrolytic condenser 100uF	3	E106,107
12	Resistor 4.7KR (Yellow, Violet, Red, Gold)	5~10	R101
13	Resistor 330R (Yellow, Yellow, Brown, Gold)	5~10	R102,103,104
14	Pin Header socket with Single 40Pin Straight	2	CPU supporter
15	LW0640-06(Molex5045) Header 6Pin	1	J101
16	Adapter Jack DC-005	1	J107
17	D-SUB 9Pin Male Angle for PCB	1	J109
18	PCB Support 25mm Male	8	PCB supporter
19	Tactile Switch(4pinDIPtype, Push button reset sw)	1	S101
20	Power Switch(3pin DIP On/Off sw)	1	J106

2.2 Picture of each products

AT Mega 128 R&D Main board

AT Mega 128 R&D Main board



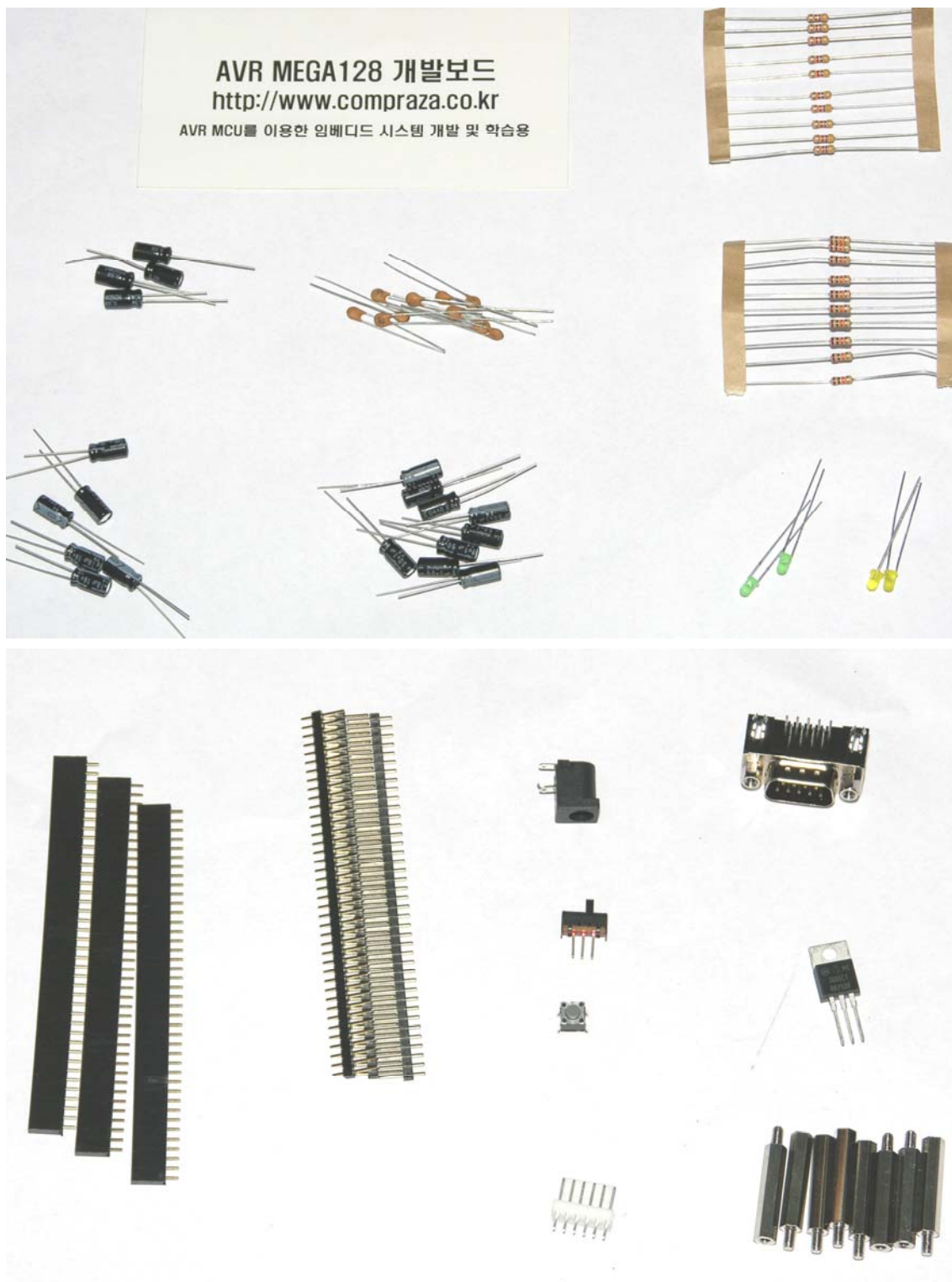
AT Mega 128 MCU board



ISP Cable



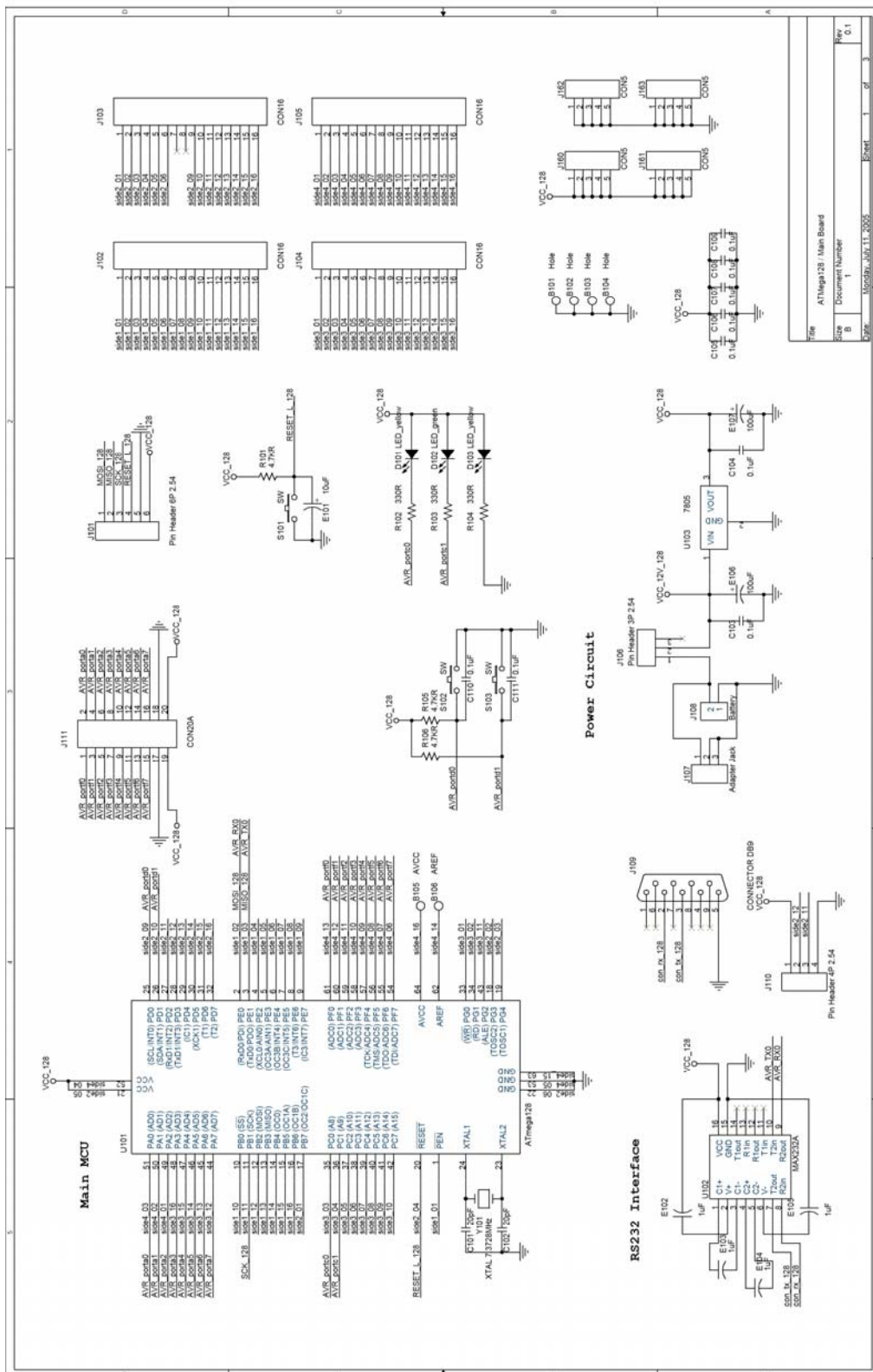
Basic Parts



Serial cable and power adaptor



2.3 Circuit



3. For your technical supports

<http://www.compraza.co.kr>

If you have any question about this board like how to use, how to program, how to download with ISP cable, ...blablabla, then you can go to the compraza website, and you can download the manual for that.

This site supports for other examples and lecture, and I am upgrading this website with other source code or lectures. If you have any question, then you can email to me or just leave a question on Q&A of this website. I am always checking, and trying to answer for your question ASAP(as soon as possible).

At this PCB of ver. 1.1, I made port F & port A with external connector, so you can easily test port, A/D converter, I2C, text LCD, and Graphic LCD. Also, I connected button type switch on external interrupt port, so you can easily test external interrupt and keyscan.

If you go to <http://www.compraza.co.kr>, there are three kinds of lecture. That is about AVR, electronics engineering, and robot like line tracer, so if you want to take the document about something with english, then if you ask, then I will send you English manual for that field. Even though you donot understand Korean language, you could understand some with just pictures. ^---^, but if you want to understand fully, then I will make English version manual for you. If you have any question about the products or service, then do not hesitate on visiting to the website or email to me.

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