

**ET-BASE XMEGA128A1**

(P-ET-A-00426)



New board from ETT that uses AVR MCU of ATMEL has been developed and improved its capabilities from the old version 'ATMEGA' to new version 'XMEGA'. Its outstanding feature is higher speed to process data, low power consumption, higher stability of Clock System, INTERRUPT INPUT Detection.

**Features of ATXMEGA128A1 that is used as MCU of Board ET-BASE XMEGA128A1**

- 128KBYTE FLASH Program/ 8KBYTE SRAM/ 2KBYTE EEPROM
- 100PIN TQFP, run at 1.6V-3.6V (RUN 32MHz at 2.7V-3.6V and 12MHz at 1.6V)
- Circuit internal PLL can program CLOCK to 32MHz at the maximum
- 4 CH DMA, 8 CH 16 BIT TIMER/ COUNTER, 4 CH I2C, 4 CH SPI
- 8 CH USART and 1 CH can be programmed to be IRDA
- 16 CH 12 BIT ADC(2MSPS), 4 CH 12 BIT DAC(1MSPS)
- Circuit AES and DES to encode and decode
- Set priority level of INTERRUPT
- Has JTAG System (IEEE 1149.1) to PROGRAM and DEBUG
- Has PDI (PROGRAM AND DEBUG INTERFACE) for PROGRAM and DEBUG

**Features of Board ET-BASE XMEGA128A1**

- Use XMEGA MCU No.ATXMEGA128A1
- Use X'TAL 8MHz; can use Circuit PLL internal MCU to run 32MHz
- Use Circuit RTC with X'TAL 32.768KHz internal MCU
- Support IN-SYSTEM PROGRAM in the format of PDI through Connector 6PIN HEADER (according to standard of ATMEL) (be compatible with ET-AVR ISP mkII)
- Can program data into MCU through PORT RS232 on board, without using any COPY or DOWNLOAD. Moreover, ETT has already installed BOOT LOADER into MCU.
- 10 PIN HEADER AVR-JTAG to REAL TIME DEBUG
- MICRO-SD CARD SOCKET
- 2 CH 4 PIN ETT PORT RS232
- 1 SW INPUT PORT TEST, 1 OUTPUT LED TEST, 1 SW RESET
- Has 72 BIT I/O that has 9 of Connectors 10 PIN HEADER ETT for A/D, D/A, I2C, SPI, USART and INPUT OUTPUT (I/O PORT run 3.6V at the maximum)
- Use +5VDC POWER SUPPLY with Circuit 3.3V REGULATE ON BOARD and Connector 2PIN (be compatible with ET-SWITCHING ADAPTER 5V 1.2A TYPE B (A-AP-A-00079))
- PCB size: 8.23 X 6.20 cm.

**ET-BASE XMEGA128A1 kit consists of...**

1. Board ET-BASE XMEGA128A1
2. CD-ROM User's Manual and Program
3. Cable ET-RS232 DB9 F to DOWNLOAD

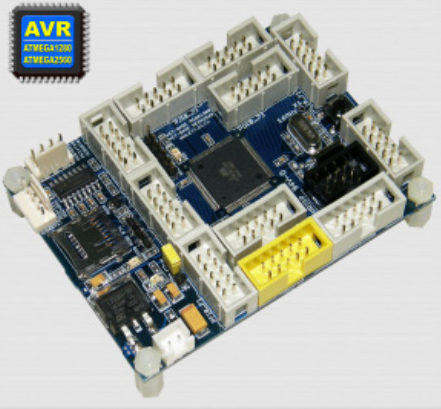


**ET-BASE MEGA1280**

(P-ET-A-00427)

**ET-BASE MEGA2560**

(P-ET-A-00428)



This is new AVR Board from ATMEL that has been developed and improved capabilities of board better. It includes many PERIPHERAL I/O internal MCU, so user can program operation modes conveniently. There are 2 versions as followed;

- ET-BASE MEGA1280 uses MCU No.ATMEGA1280-16 as MCU on board and there are 128KBYTE FLASH, 8KBYTE RAM, 4KBYTE EEPROM, A/D 16 X 10BIT, 100PIN TQFP.
- ET-BASE MEGA2560 uses MCU No.ATMEGA2560-16 as MCU on board and there are 256KBYTE FLASH, 8KBYTE RAM, 4KBYTE EEPROM, A/D 16 X 10BIT, 100PIN TQFP
- RUN X'TAL 16MHz
- 12 CH 16 BIT PWM, 4 CH USART, 16 CH A TO D 10 BIT, 86 BIT GPIO, 2 CH 8 BIT TIMER/ COUNTER, 4 CH 16 BIT TIMER/COUNTER, 1 CH I2C, 1 CH SPI
- Has JTAG (IEEE 1149.1) for PROGRAM and DEBUG
- Has ISP(IN-SYSTEM PROGRAMMING) for PROGRAM

**Specifications of Board ET-BASE MEGA1280/2560**

- Has RTC with X'TAL 32.768KHz internal MCU
- Support ISP(IN-SYSTEM PROGRAMMING) through Connector 6PIN HEADER (according to the standard connector of ATMEL) (it can use ET-AVR ISP mkII, ET-AVR ISP PROG MINI, ET-AVR ISP USB V1)
- Can program data into MCU through PORT RS232 on board without using any COPY or DOWNLOAD. ETT has already installed BOOTLOADER into MCU on board.
- 10 PIN HEADER AVR JTAG for REAL TIME DEBUG
- SOCKET MICRO-SD CARD with BUFFER 5V TO 3V
- 2 CH 4PIN ETT PORT RS232
- 1 OUTPUT LED TEST
- Independent 83BIT GPIO; there are 10 of Connector 10PIN HEADER ETT for applications such as A/D, I2C, SPI, USART, and INPUT OUTPUT (I/O PORT is compatible with 5V)."
- Use +5VDC POWER SUPPLY with +3.3V/3A REGULATE internal board, it uses Connector 2PIN (it is compatible with ET-SWITCHING ADAPTER 5V 1.2A TYPE B ((A-AP-A-00079) ). Moreover, there is JUMPER on board to choose the Power Supply between 5V and 3.3V.
- PCB Size: 8.23 x 6.20 CM.

**ET-BASE MEGA1280/2560 consists of**

1. Board
2. CD-ROM< User's Manual and Sample Programs
3. Cable ET-RS232 DB9 F for DOWNLOAD

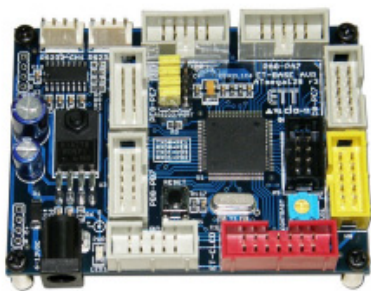


**ET-BASE AVR ATMEGA64 R3**

(P-ET-A-00424)

**ET-BASE AVR ATMEGA128 R3**

(P-ET-A-00425)



It is a Board AVR family from ATMEL No.ATMEGA64 and No.ATMEGA128 as TQFP 64 PIN type. Board is designed to be a small size and can be used as general usage or can be interfaced with "ET-BASE I/O V1".

- Version ET-BASE AVR ATMEGA64 uses No .ATMEGA64-16 to be permanent MCU on board with internal 64 KBYTE FLASH MEMORY, 4 KBYTE RAM, 2 KBYTE EEPROM
- Version ET-BASE AVR ATMEGA128 uses No.ATMEGA128-16 to be permanent MCU on board with internal 128 KBYTE FLASH MEMORY, 4 KBYTE RAM, 4 KBYTE EEPROM
- RUN X'TAL 16MHz
- 53 I/O BIT
- RS232 PORT 2 CHANNEL as 4 PIN ETT type
- 14 PIN LCD PORT as CHARACTER TYPE
- A TO D 10 BIT 8 CHANNEL, SPI 1 CHANNEL, I2C 1 CHANNEL
- TIMERS/COUNTER 8 BIT, TIMERS/COUNTERS 16 BIT, PWM, WATCHDOG, RTC
- 6 PORT I/O 10 PIN ET
- PCB size 6.2 x 8.1 cm.
- POWER SUPPLY 7-12VDC POWER 7805 REGULATOR ON BOARD

Can DOWNLOAD program into FLASH Memory directly by using "ET-AVR ISP" through PRINTER PORT and using with PROGRAM PONY PROG2000 for running on WINDOWS 98/ME/XP/2000

- ET-BASE AVR ATMEGA64 and 128 consists of
1. BOARD
  2. CD-ROM
  3. CABLE DOWNLOAD ET-AVR ISP

