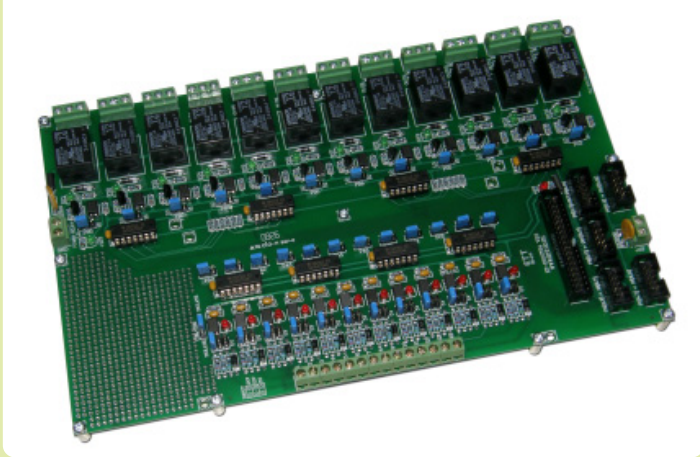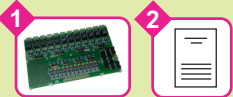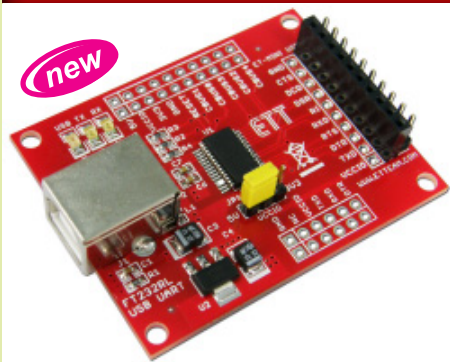## ET-INOUT24 V2.0 (P-ET-A-00368)

It is the new Board INPUT/OUTPUT Expansion that the replaces ET-INOUT24. It change the Relay size to 10A to use with the higher current; increase the applications of INPUT OPTO for using with INPUT 5V, 12V and 24V; moreover, It increase LOGIC INPUT that is both OUTPUT RELAY and INPUT OPTO, so user can select LOGIC to run either as LOGIC LOW or as LOGIC HI.

- 12 OUTPTU RELAY 12VDC 10 AMP that has 3PIN SCREW TERMINAL BLOCK Connectors; OUTPUT, NO, NC, COM. It uses OPTO ISOLATE Circuit to separate RELAY from 5V POWER SUPPLY.
- OUTPUT RELAY can set signals for RELAY operation; it in this case, LOGIC INPUT can be run in either LOGIC LOW or LOGIC HI.
- 12 INPUT OPTO ISOLATE can set Signal INPUT Levels; 5V 12V or 24V; independently separate SCREW TERMINAL BLOCK Connector; and can select Signals for INPUT operation to RUN at LOGIC INPUT either as LOGIC LOW or as LOGIC HI.
- PHOTO AREA PCB Size: 7.00 x 5.00 cm. to expand circuit.
- 1 of 34PIN I/O ET BUS Connector and 5 of 10PIN I/O ET BUS Connector.
- Board uses 12VDC Power Supply to feed RELAY and 5VDC for Board.
- Board size: 25.30 x 15.20 cm.
- ET-INOUT 24 V2.0 consists of ... Board and User's Manaul.

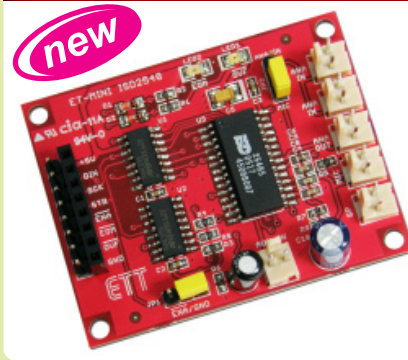## ET-MINI USB-TTL (P-ET-A-00465)

It is Board that converts signal from PORT USB of computer to be UART Serial in the format of Signal TTL; so,

it is suitable for directly interfacing with Board Microcontrollers.

- Use IC No.FT232RL of FUTURE TECHNOLOGY DEVICES
- Has all Connectors UART completely; TX, RX, DTR, DSR, CTS, RTS, DCD, RI
- Use Power Supply from the connected PORT USB directly
- Has Circuit REGULATOR 3.3V 800mA ON BOARD
- Has 3 LEDs to display the operating status of RX, TX, USB
- Has JUMPER to choose the signal levels to be either 3.3V or 5V
- DRIVER supports the operation under WIN 98 SE/ ME/ 2000/ XP/ 7, LINUX, MAC OSX
- Has Connector PORT USB TYPE B
- Use Connector INPOUT/OUTPUT 10PIN to be PIN HEADER 2.54mm. MALE and FEMALE
- PCB Size is 4.4 x 5.6 mm.
- Board ET-MINI USB-TTL consists of …
1. Board ET-MINI USB-TTL
2. CD-ROM; User's Manual and DRIVER
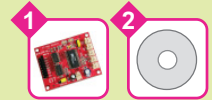
ET-MINI ISD2548 (P-ET-A-00473)

ET-MINI ISD2548 is MINI Board that records sound and playback; it is suitable for recording sound that is not longer than 48 seconds. It controls record and playback by interfacing with MCU in the format of SERIAL DATA (SPI) through IC 74HC595 to reduce amount of Pin I/O of the connected MCU.
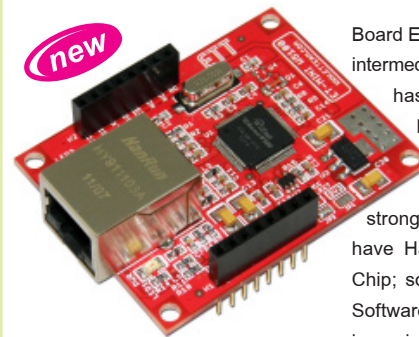
Specifications of ET-MINI ISD2548
- Use IC VOICE REC/PLAY 48 SEC No.ISD2548 28-SOIC
- INPUT SAMPLE RATE 5.3KHz, FILTER PASS BAND 2.3KHz (ON CHIP CLOCK SOURCE)
- Use Microcontroller to control the operation
- Has 320 MESSAGE ADDRESS; 1 ADRESS can record sound for 150 ms (0.15 seconds)
- Sound recording is not erased when POWER OFF, so it is unnecessary to have BATTERY for BACKUP
- 100,000 times recordable and it last for 100 years.
- 5 of Connector 2 PIN 2.54mm. MALE to interface SP, MIC, ANA OUT, ANA IN(2)
- Connector PIN HEADER 1x8 MALE and FEMALE with 2.54mm Pitch to interface with MCU at Signal 5V
- Use 5VDC Power Supply
- Board size is 4.4 x 5.6 cm.
- Provide example program to use with Board ET-BASE AVR ATMEGA128, CP-JR51RE2 V1, ET-BASE PIC8722(ICD2)
- **ET-MINI ISD2548** consists of…
1. Board ET-MINI ISD2548
2. CD-ROM User's Manual and Examples

ET-MINI W5100 (P-ET-A-00478)

Board ET-MINI W5100 is designed to be intermediate between Microcontroller that has no any PORT Ethernet and Ethernet Network. This board uses Chip Ethernet Controller No.W5100 from WIZnet. The strong point of this Chip number is to have Hardwired TCP/IP stack internal Chip; so,it isun necessary to write any Software TCP/IP Stack from external. It is easier to use and it does not waste much resource of the connected Microcontroller.

- It interfaces with Board in the format of SPI BUS; it can be connected with Board Controllers. In the picture, it connects with Board ET-BASE AVR EASY328.

Specifications of ET-MINI W5100
- Use Chip No.W5100(80 PIN LQFP TYPE) from WIZnet to be IC Ethernet Controller that has Hardwired TCP/IP internal Chip
- Support the connection of TCP/IP Protocals TCP, UDP, ICMP, IPv4 ARP, IGMP, PPPoE, Ethernet
- Support the connection of 10BaseT/100BaseTX
- Use SPI BUS to interface with board, so it can be connected with Board Controllers
- Be compatible with both 3.3V and 5V Power Supply; it can choose the Power Supply level by set JUMPER.
- Can be used with Board ET-BASE AVR EASY88/168/328 directly
- PCB SIZE: 4.6 x 5.6 cm
- **ET-MINI W5100** consists of …
1. Board ET-MINI W5100
2. CD-ROM User's Manual and Example Program