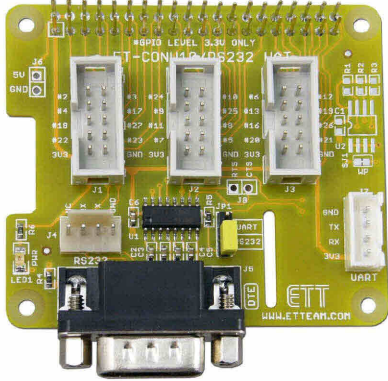
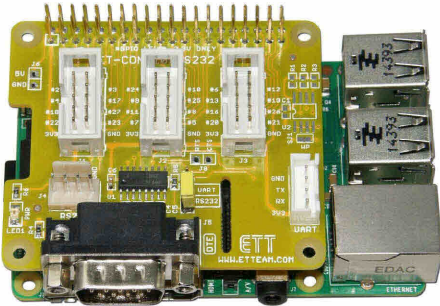




## ET-CONV10/RS232 HAT (P-ET-A-00530)



- It illustrates how to connect **ET-CONV10/RS232 HAT** with Board RASPBerry PI.



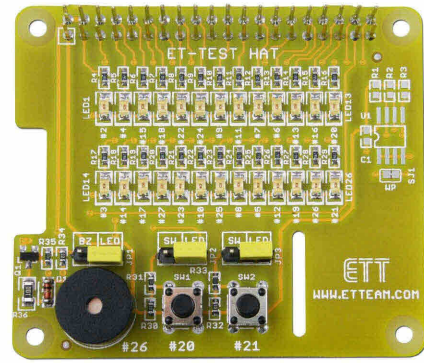
Board **ET-CONV10/RS232 HAT** is specifically designed for use with 40PIN of Board RASPBerry PI. There are 2 types of application as follows;

1. It is used as RS232 PORT.
2. It changes Connector 40PIN of RASPBerry to Connector 10PIN ETT Standard; so, it can be used with I/O Boards of ETT conveniently.

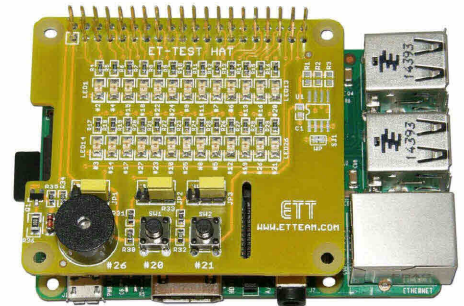
### SPECIFICATIONS of Board **ET-CONV10/RS232 HAT**

- Be compatible with Board RASPBerry PI MODEL A+, MODEL B+, PI2 MODEL B
- Have connectable area to receive ID EEPROM (**OPTION**)
- Have Circuit LINE DRIVER to convert level of Signal LOGIC from Board RASPBerry PI to RS232; has Connector DB9 PIN MALE and 4 PIN (ETT STANDARD).
- Have 3 of Connector IDC 10PIN (24 BIT I/O) arranged according to ETT STANDARD, it can be used with I/O Boards of ETT conveniently. NOTE: The level of Signal I/O must not be higher than 3.3V (if it is used with 5V, it requires following items;
- ET-10PIN CONV 3/5M (P-ET-A-00461), if it requires using all PORT (8BIT) as INPUT or OUTPUT.
- ET-MINI LOGIC LEVEL B1 (P-ET-A-00520), if it requires using BIDIRECTIONAL type from 3.3V to 5V or from 5V to 3.3V, all 8BIT are independently separated.
- Have Connector 2 x 20 PIN STACKABLE 25.5mm. that is specifically long leg; so, it can pile boards up.
- PCB size: 6.5 x 5.6 mm.
- Have set of chromium pole (**OPTION**), please choose proper size and type according to the board connection
- Board ET-CONV10/RS232 HAT includes Board ET-CONV10/RS232 HAT, Document and Example Programs

## ET-TEST HAT (P-ET-A-00529)



- It illustrates how to connect **ET-TEST HAT** with Board RASPBerry PI.

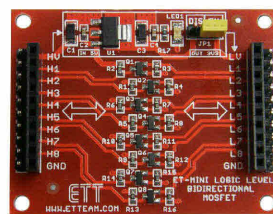


Board **ET-TEST HAT** is specifically designed to test I/O PORT of Board RASPBerry PI; it is used to test the operation or write sample program to show on LED Display or BUZZER on this board.

### SPECIFICATIONS of Board **ET-TEST HAT**

- Be compatible with Board RASPBerry that has I/O PIN as 40 PIN such as RASPBerry PI MOD A+, MODEL B+, PI2 MODEL B
- Has connectable area to adjust ID EEPROM (**OPTION**)
- Has 26 of LED SMD to test I/O PORT of RASPBerry PI
- Has 2 of SW with JUMPER to choose the preferable operation mode
- Has 1 of BUZZER with JUMPER to test the operation
- Has Connector 2 x 20 PIN STACKABLE 25.5 mm.
- PCB size: 6.5 x 5.6 mm.
- Have set of chromium pole(**OPTION**), please choose proper size and type according to the board connection
- **ET-TEST HAT** includes Board ET-TEST HAT, Document and Example Programs

## ET-MINI LOGIC LEVEL B1 (P-ET-A-00520)



This **ET-MINI LOGIC LEVEL B1** is LOGIC LEVEL as BIDIRECTIONAL type that uses MOSFET to operate. This board connects Signal Logic between 5V devices and 3.3V devices by MOSFET. It can convert Signal LOGIC as bidirectional, so it is more convenient to use.

- Send value from Signal Logic 5V to 3.3V or from Logic 3.3V to 5V
- Have 8-CH for connection
- Be compatible with general Signal Logic I/O such SPI (not higher than 8 MHz), UART (not higher than 115200 bps), I2C (not higher than 400 KHz)
- Have IC REGULATOR 3.3V/800mA on board to supply power from 5V to 3.3V device
- Connector type is PIN HEADER 1 x 10 MALE and PIN HEADER 1 X 10 FEMALE, 2.54 mm. PITCH both sides
- PCB size: 4.4 x 5.6 mm.
- Package includes Board and document



## ET-10PIN CONV 3/5M (P-ET-A-00461)



This mini board with 2 of Connector 10PIN ET BUS I/O is designed for use with PAIR Cable 10PIN conveniently. It is connected with Signal LOGIC between 5V devices with 3.3V devices by using IC 74LCX245 to be intermediate. It can setup JUMPER for all 8BIT. It can send data from 5V side to 3.3V side or from 3.3V side to 5V side by Circuit REGULATOR 3.3V. It is suitable for connecting Board MCU that is 3.3V I/O with 5V I/O Board.