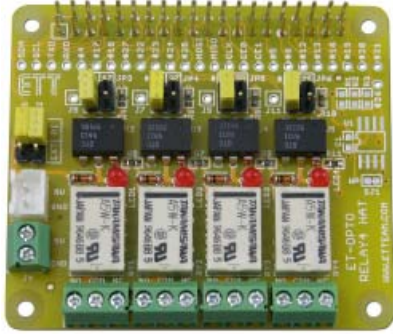## ET-OPTO RELAY4 HAT
(P-ET-A-00531)

- It illustrates how to connect ET-OPTO RELAY4 HAT with Board RASPBERRY PI.

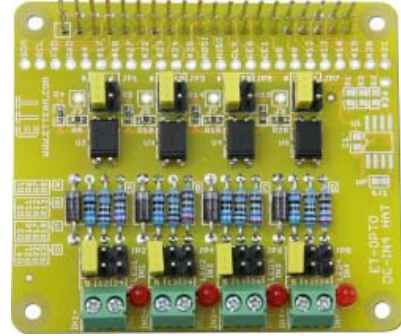

Board ET-OPTO RELAY4 HAT is specifically designed for use with Connector 40PIN of Board RASPBERRY PI; it is 4-RELAY Board.

SPECIFICATIONS of Board ET-OPTO RELAY4 HAT

- Be compatible with Board RASPBERRY PI MODEL A, MODEL B+, PI2 MODEL B
- Have connectible area to receive ID EEPROM (OPTION)
- Drive Circuit RELAY as OPTO-ISOLATION(4N33) to control and command RELAY
- Use CONTACT RELAY 5VDC 0.5A/125VAC or 1A/30VDC; and use Connector as SCREW TERMINAL BLOCK 3 PIN (NO,COM,NC)
- JUMPER chooses I/O to control all 4 RELAYs; can connect 2-RELAY Boards (8 RELAY) per 1 System
- Connector Power Supply of RELAY is provided for connecting from external board; and set JUMPER to choose Power Supply for RELAY either from internal board or external board. The Connector type is SCREW TERMINAL BLOCK 2PIN and WAFER 2.5 mm. 2PIN (it is compatible with ET-SWITCHING ADAPTER 5V 2A TYPE B (A-AP-A-00095))
- Use CONNECTOR 2 x 20 PIN STACKABLE 25.5 mm. that is specifically designed; so, it can pile boards up.
- PCB size: 6.5 x 5.6 mm. Set of chromium pole is OPTION, please choose proper size and type of pole according to board connection.
- Board ET-OPTO RELAY4 HAT includes Board ET-OPTO RELAY4 HAT, Document and Example Programs.

ET-OPTO DC-IN4 HAT
(P-ET-A-00532)

- It illustrates how to connect ET-OPTO DC-IN4 HAT with Board RASPBERRY PI.

ET-OPTO DC-IN4 HAT is specifically designed for use with Connector 40PIN of Board RASPBERRY PI; this INPUT Board is 4-CH OPTO ISOLATION.
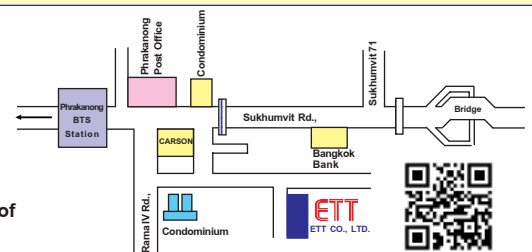
SPECIFICATIONS of Board ET-OPTO DC-IN4 HAT

- Be compatible with Board RASPBERRY PI MODEL A, MODEL B+, PI2 MODEL B
- Have connectible area to receive ID EEPROM (OPTION)
- Be used as INPUT Board to receive Signal DC; separate operation by PC817 OPTO ISOLATION; separate Power System into 4 channels.
Set Jumper to properly choose 3 alternative levels of INPUT; all 4-Ch is independently separated; 5VDC, 12VDC, 24VDC
- Set JUMPER to choose I/O to connect and receive all 4-CH INPUT; so, it can connect 2 INPUT Boards (8 INPUT) per 1 System
- Connector 4-CH INPUT is SCREW TERMINAL BLOCK 2 PIN
- Use CONNECTOR 2 x 20 PIN STACKABLE 25.5 mm. that is specifically long leg, so it can pile boards up.
- PCB size: 6.5 x 5.6 mm. Set of chromium pole is OPTION, please choose proper size and type according to board connection.
- Board ET-OPTO DC-IN4 HAT includes Board ET-OPTO DC-IN4 HAT, Document and Example Programs

http://www.etteam.com

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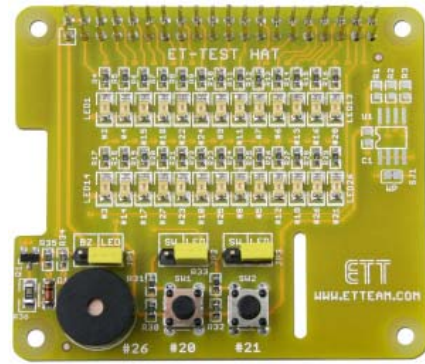
1. It is used as RS232 PORT.
2. It changes Connector 40PIN of RASPBERRY to Connector 10PIN ETT Standard; so, it can be used with I/O Boards of ETT conveniently.

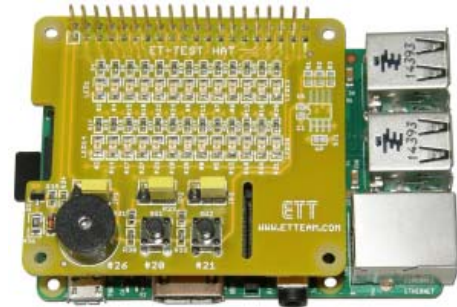**SPECIFICATIONS of Board ET-CONV10/RS232 HAT**

- Be compatible with Board RASPBERRY PI MODEL A+, MODEL B+, PI2 MODEL B
- Have connectible 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-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.

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

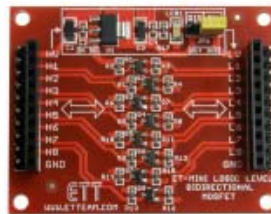- It illustrates how to connect ET-TEST HAT with Board RASPBERRY PI.

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 connectible 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 incudes 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.
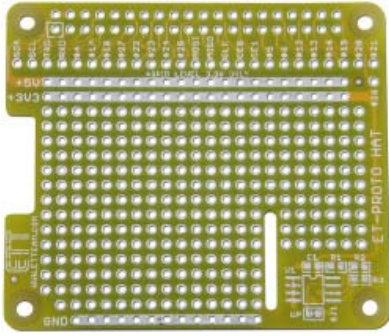
- Send value from Signal Logic 5V to 3.3V or from Logic 3.3V to 5V
- Have 8-CH for connection
- Be compatible with general Signal Logic I/O such SPI (not higher than 8 MHz), UART (not higher than 115200 bps), I2C (not higher than 400 KHz)
- Have IC REGULATOR 3.3V/800mA on board to supply power from 5V 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
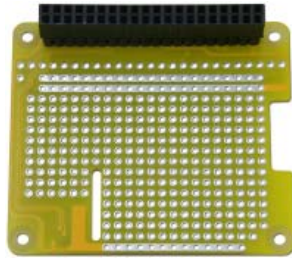- PCB size: 4.4 x 5.6 mm.
- Package includes Board and document

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e-mail : sale@etteam.com

ET-PROTO HAT
(P-ET-A-00564)

- It illustrates how to connect ET-PROTO HAT with Connector 2 x 20 PIN STACKABLE 25.5 mm. (This 2 x 20 PIN is not included in the PCB, it is OPTION).

- It illustrates how to connect ET-PROTO HAT, it solders 2 x 20 STACKABLE 25.5 mm. onto Board RASPBERY PI.

This ET-PROTO HAT or multi-purposed PCB as HAT (HARDWARE ATACHED ON TOP) is specifically designed for use with Board RASPBERRY PI that has Connector 40 PIN such as PASPBERRY PI MODEL A+, RASPBERRY PI MODEL B+, RASPBERRY PI2 MODEL B; it is suitable to make prototype boards by connecting with RASPBERRY PI via Connector 40P conveniently.

SPECIFICATIONS of Board ET-PROTO HAT

- PCB size: 6.5 x 5.6 cm.; the PCB type is PTH.
- Have connecting point of PCB 40 PIN to connect with I/O PIN of RASPBERRY PI
- Have connectible area for ID EEPROM (OPTION)
- Have connecting point of I/O for +5V, +3.3V, GND
- Have Connector PIN STACKABLE 2 x 20 (2 x 20 PIN STACKABLE 25.5 mm. (OPTION)

2 x 20 PIN STACKABLE 25.5 mm.
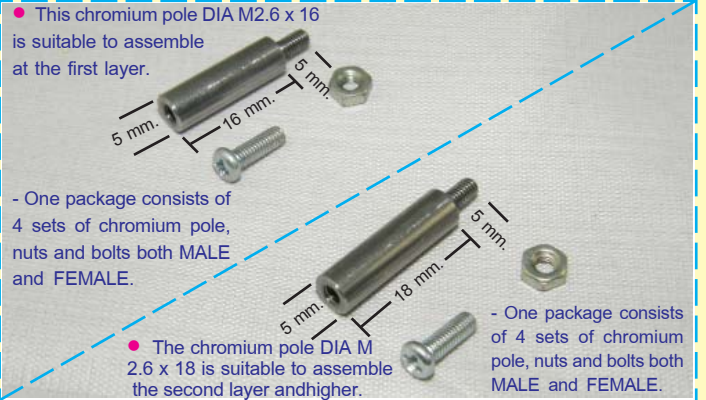## (A-CO-A-00289)

12.00 mm.
5.0 mm.
8.5 mm.

It is Connector 40 PIN; one side is FEMALE and another side is MALE. It is specifically long leg that is high enough and it does not touch any device under the PCB. If it requires piling boards up, this ET-PROTO HAT is suitable.
- 2 x 20 PIN, 2.54 mm. PITCH, PIN GOLD PLATED
- SIZE 8.5/5.0/12.00 mm.

CHROMIUM POLE DIA M2.6 x 16
(P-DI-A-00005)

CHROMIUM POLE DIA M2.6 x 18
(P-DI-A-00006)

- This chromium pole DIA M2.6 x 16 is suitable to assemble at the first layer.

5 mm. 16 mm. 5 mm.

- One package consists of 4 sets of chromium pole, nuts and bolts both MALE and FEMALE.

5 mm. 18 mm. 5 mm.

- One package consists of 4 sets of chromium pole, nuts and bolts both MALE and FEMALE.

- The chromium pole DIA M 2.6 x 18 is suitable to assemble the second layer andhigher.

- One package of this chromium pole DIA M2.6 x 16 consists of 4 sets of chromium pole, nuts and bolts both MALE and FEMALE. It holds and fastens HAT Boards of ETT and Board RASPBERRY PI together. This set is suitable to hold and fasten the first layer between board and RASPBERRY PI (when using 2 x 20 PIN STACKABLE 25.5 mm.).

- One package of this chromium pole DIA M2.6 x 18 consists of 4 sets of chromium pole, nuts and bolts both MALE and FEMALE. It holds and fastens between HAT Boards of ETT and Board RASPBERRY PI. This set is suitable to hold and fasten the second layer and higher board and RASPBERRY PI (when using 2 x 20 PIN STACKABLE 25.5 mm.)

- It illustrates how to assemble the chromium pole between Board RASPBERRY PI and various types of Board ET-HAT.

ET-HAT
DIA M2.6 x 18
ET-HAT
DIA M2.6 x 16
Raspberry PI Board

ETT บริษัท อีทีที จำกัด ETT CO., LTD.

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RASPBERRY PI2-MOD B + SD8G
(C-YA-A-00202) ***

This is the new RASPBERRY PI2-MOD B with SD CARD 8G that has already been installed the Operating System of OS.

Raspberry Pi2

- Use CPU BROADCOM BCM2836 ARM7 4 CORE 900 MHz that is x6 speed when compared with the previous model version
- RAM 1GB LPDDR2 SDRAM
- GPU VIDEO CORE IV 2 CORE
- OPERATING SYSTEM BOOTS FROM MICRO SD CARD
- DIMENSION: 85 x 56 x 17 mm.
- POWER SUPLY from Connector MICRO USB SOCKET 5V/2A

RASPBERRY-MOD A+ -256M + SD 8G
(C-YA-A-00199) ***

Raspberry Pi

- Be smaller and more inexpensive than MODEL B+; Board size is 65.0 x 56.0 mm.
- CHIP SoC BROADCOM BCM2835 that includes CPU, GPU and SD RAM together
- Central Processing Unit(CPU) 700 MHz ARM 11 ARM1176JZF-F CORE
- Graphics Processing Unit(GPU) BROADCOM VIDEO CORE IV, OPEN GL ES 2.0 OPEN VG 1080 P30 H 264
- MEMORY 256 MB SD RAM
- OPERATING SYSTEM BOOTS FROM MICRO SD CARD
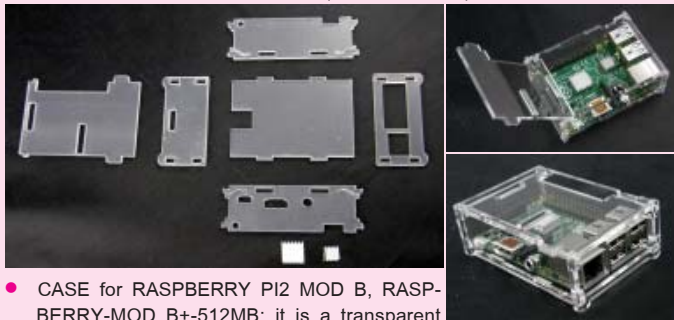- POWER SUPPLY FROM MICRO USB SOCKET 5V (1-2A)

CABLE LAN DIRECT 2 M
(P-CB-A-00028)

ET-CONV 40D
(P-ET-A-00198)
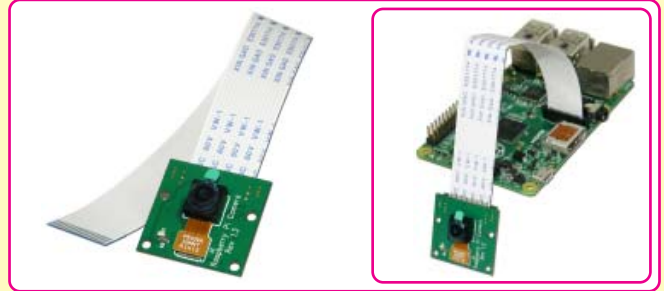

CASE RASPBERRY-MOD B+ (A-CV-D-00018)

- CASE for RASPBERRY PI2 MOD B, RASP-BERRY-MOD B+-512MB; it is a transparent acrylic pad with 3 mm. thickness and it can be assembled to be box easily.
- Provide HEATSINK to ventilate heat with 2 glues to stick with IC (convection)

OPTION

● RASPBERRY CAMERA
(C-YA-A-00200) ***

This MODULE CAMERA is specifically designed to use with Board Raspberry PI, it is compatible with MODEL A+, MODEL B, MODEL B+, Raspberry PI2 MOD B; moreover, it can be connected with SOCKET CAMERA as CSI BUS type.
- Board Size: 25 x 20 x 9 mm.
- 5MP Resolution (2529 x 1944 PIXELS)
- Use Sensor OMNIVISION 5647, fixed focus
- Video Camera Resolution 1080P30, 720P60 and 640x480 P 60/P90

● RASPBERRY PI2-MOD B
(C-YA-A-00201) ***

● RASPBERRY-MOD A+-256M
(C-YA-A-00198) ***

● USB POWER ADAPTER CT40U 2CH
(A-AP-A-00097)

● SD CARD 8 GB-MOD B+ -512M
(A-CM-A-00045)

It is 8G SD MICRO that already programmed and installed the Operating System; it is compatible with Raspberry PI MOD B+, MOD A+, Raspberry PI2 MOD B.

● CABLE USB/MICRO 1 M
(A-CB-A-00045)

● CABLE HDMI/HDMI 2.0M
(A-CB-A-00046)

● CABLE 40P TO 26P   (P-CB-A-00032)

It is PAIR CABLE 40 PIN to 26PIN; it is compatible with RASPBERRY PI2 MOD B, RASPBERRY MOD A+, B+ that is Connector 40PIN. It can be connected with boards that are connected with the old model of 26PIN RASP BERRY. For example, if it requires connecting the new model MOD A+ or MOD B+ with Board ET-RPI START KIT, it can use this CABLE.

Raspberry Pi MOD A+   ET-RPI START KIT * 290.-

CABLE 40P TO 26P

***This board is imported product; its circuit is SMD type that is irreparable. Please note that ETT checked and approved all parts of circuit before sale and we confirmed the product is available.

ETT does not warrant the product, especially this model. If customer cannot accept any condition, please not open or unseal the package. Please return this product to refund

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