

ET-MINI MP3 V2

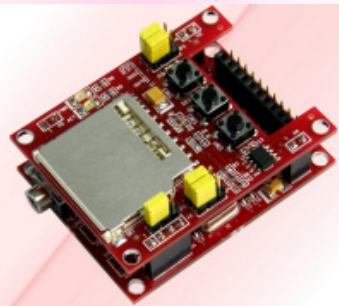
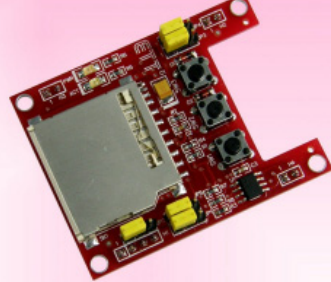
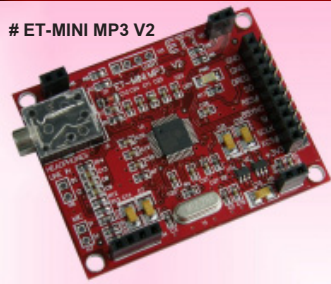
(P-ET-A-00413)

ET-MP3 STANDALONE MODULE

(P-ET-A-00415)

ET-MINI MP3 V2

ET-MP3 STANDALONE MODULE



ET-MINI MP3 and ET-MP3 STAND ALONE MODULE are the File MP3 Decoder and SOCKET SD CARD that can be directly interfaced together to be MP3 Player; in this case it is unnecessary to interface with any Micro System. ET-MINI MP3 V2 is File MP3/WMA/MIDI Decoder to convert file into audio. The second version uses IC No.VS1003B from VLSI (it is the original from VLSI, not COPY), it is the high quality IC MP3 Decoder; moreover, it is easier to use. There are ANALOG OUTPUT and STEREO Audio.

Specifications of ET-MINI MP3 V2

- Use IC No.VS1003B from VLSI to be File MP3 Decoder
- Can decode File MP3 that has been encoded as MPEG 1.0 & 2.0 Audio layer III (CBR+VBR+ARB), including WMA 4.0/4.1/7/8/9 all profiles (5-384kbit/s); WAV (PCM+IMA ADPCM); General MINI/SP-MIDI files
- Can encode audio signal by microphone to be the standard ADPCM
- Support Streaming Data for File MP3 or WAVE
- Has commands to adjust audio; Base Control and Treble Control
- Run by Signal Clock 12.288MHz and internal PLL
- Has high quality circuit to convert data into DAC audio, including Circuit Stereo Amplifier. It can interface Audio Out with amplifier or earphone set that has 30Ohm Impedance directly. The Connector Audio Out of board is Jack Stereo that can interface with earphone set or amplifier of computer PC directly.
- Run by DC 3V-3.3V, including LED to display operating status of POWER
- Support interfacing signals with Microcontroller through SPI Serial Port
- Can modify the operation of board to be STAND ALONE MP3 Player, without using any Microcontroller to control the operation (read further details from Application Note of VLSI)
- Board size is 4.3 x 5.6 cm.

ET-MP3 STANDALONE MODULE

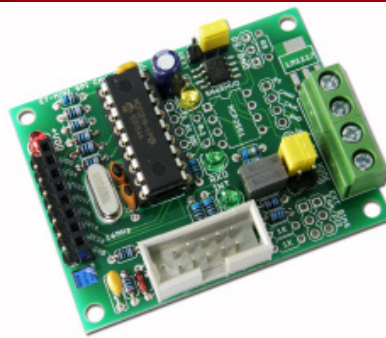
This board is designed to be additional board for supporting the operation of Board ET-MINI MP3 V2 to play File MP3 from SD Card directly, and it is unnecessary to interface with any Micro System. It only inserts this Module on Board ET-MINI MP3 V2; supplies 3V-3.3V Power Supply into the board; and finally, you can play File MP3 instantly.

Specifications of Board ET-MP3 STANDALONE MODULE

- SOCKET SD CARD for inserting SD CARD
- Use SPI EEPROM 25LC640 for storing BOOT IMAGE; in this case, ETT has already programmed BOOT IMAGE to be MP3 Player.
- Can change the format of control mode to another modes by programming new BOOT IMAGE
- 2 LED POWER and ACT. It interfaces POWER SUPPLY from ET-MINI MP3 V2.
- Board size is 4.3 x 5.6 cm.

ET-MINI SPI CAN CONTROL V1.0

(P-ET-A-00441)



Controller Area Network
CAN CONTROLLER # MCP2515 MICROCHIPS
CAN DRIVER # SN65HVD232D TEXAS INSTRUMENTS

- ET-MINI SPI CAN CONTROL V1.0 consists of...
 1. Board ET-MINI SPI CAN CONTROL V1.0
 2. CD-ROM User's Manual and Program

ET-MINI SPI CAN CONTROL V1... is Board CAN Controller with CAN DRIVER to interface with external Board through SPI. It uses CAN Controller No.MCP2515 from MICROCHIPS Company and CAN DRIVER No.SN65HVD232D from TEXAS INSTRUMENT Company. It can support in communicating with CAN System under the standard of CAN 2.0B. It can support the CAN Communication that is Standard FRAME, EXTEND FRAME, and REMOTE FRAME.This Board ET-MINI SPI CAN is suitable to improve and develop the old system; it increases the capability of communicating through CAN System. However, we do not suggest user to use with MCU that has already had the Module CAN insides.

Specifications of Board ET-MINI SPI CAN CONTROL V1.0

- Use CAN CONTROLLER No.MCP2515 from MICROCHIPS Company
- Use CAN DRIVER No.SN65HVD232D from TEXAS INSTRUMENTS Company
- Interface with external MICROCONTROLLER through SPI LOGIC that is both 5V and 3.3V with the maximum high speed of 10MHz
- Support the standard of CAN 2.0B, CAN ISO-11898 (STANDARD PHYSICAL LAYER)
- Has 4 LEDs to display status of Power Supply, RX, TX, INT
- Has Circuit R TERMINATION that is both END NODE (120 OHM) and STUB NODE (2.6K OHM)
- Distance of CAN BUS is 62.5KB/S (1000 meter), 1MB/S (30 meter)
- Use Connector PIN HEADER 1x8 MALE and 1x8 FEMALE with 2.54mm. PITCH and IDE 10PIN HEADER BLOCK on the side of LOGIC
- Use TERMINAL 4PIN (+VEXT,CANH,CANL,GND) on the side of CAN BUS
- Use Power Supply +3.3 to 5VDC
- Has Circuit REGULATE No.LM1117-3.3 (SOT-223) or LM1117 5.0 (SOT-223) (OPTION)
- PCB size: 4.4 x 5.6 mm.



ET-CAN DRIVER (P-ET-A-00434)



Controller Area Network
CAN DRIVER # SN65HVD232D TEXAS INSTRUMENTS

ET-CAN DRIVER is Board CAN Transceivers for CAN BUS Communication by using IC CAN TRANSCEIVERS No.SN65HVD232D from TEXAS INSTRUMENTS Company. It supports CAN Communication according to the standard of ISO-11898. It is used to convert Electric Signal of CAN LOGIC into DIFFERENTIAL CAB BUS ($\pm 25V$). Board ET-CAN DRIVER interfaces with MCU that has Circuit CAN Controller insides or interfaces with Chip CAN Controller.

Specifications of Board ET-CAN DRIVER

- Use CAN TRANSCEIVERS No.SN65HVD232D
- Support the connection with CAN CONTROLER LOGIC that is both 5V and 3.3V
- Support standard of CAN ISO-11898
- Has Circuit R TERMINATION internal board that is both END CODE (120 OHM) and STUB NODE(2.6K OHM)
- Support BUS speed at 62.5KB/S(1000 meter) - 1MB/S(30 meter)
- Has 4PIN HEADER with 2.54 PITCH; it is the connecting point on the side of logic
- Has DB 9PIN MALE; it is the connecting point for Signal CAN BUS, it arranges pins according to the restrictions of J1939, CAN-CIA
- Be compatible with 3-6 VDC Power Supply
- PCB size: 1.6 x 1.8 cm.
- Board ET-CAN DRIVER consists of...
 1. Board ET-CAN DRIVER
 2. CD-ROM User's Manual and Program

