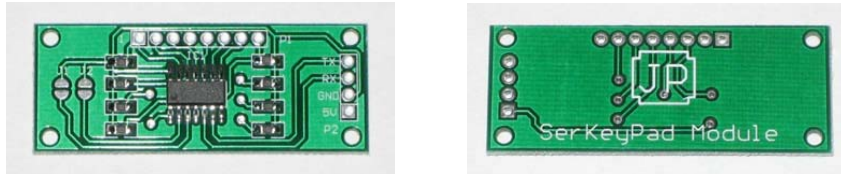


JP Serial KeyPad Module



JP serial keypad module is 16 (4 x 4) simple keypad interface module. It supports keypads with 1 to 4 rows and 1 to 4 columns. Also it will work with any microcontroller capable of accepting asynchronous serial data.

SPECS

Power: 5V VDC <10mA

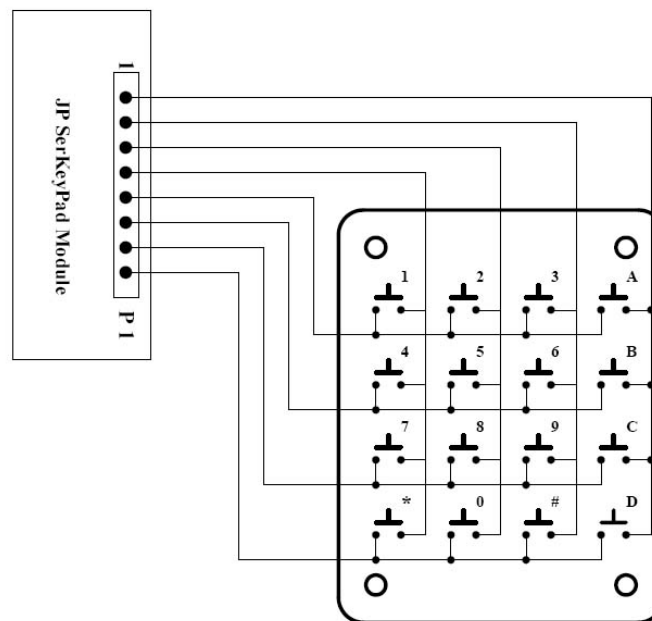
Size: 50mm x 20mm (2.0" x 0.75")

Speed: 2400, 4800, 9600 or 19200 Baud.

Keypad: 16 keys (4 x 4)

PIN FUNCTIONS

P1 Connector: P1 connector will be connected to a 16 keys keypad.



P2 Connector:

RX: Serial input connection to JP Module. The module allows 2400, 4800, 9600 or 19200 baud based on J1 and J2 settings.

TX: Serial output connection to JP Module. The module allows 2400, 4800, 9600 or 19200 baud based on J1 and J2 settings.

J1 and J2 Settings:

J1	J2	Baud
x	x	2400
-	x	4800
x	-	9600
-	-	19200

- = connected

x = disconnected

GND: Power supply and serial ground. This MUST also be connected to ground on the device to allow the serial data to be sent to the module.

5V: Supply voltage to module. V_{in} may be 5.0V ($\pm 0.5V$), with 10 milliamps of current.

KEYPAD MODULE SETUP:

The Keypad module has 3 different settings that means it will output 3 different ASCII value when the key is pressed.

First setting is default.

1, 2, 3, A
4, 5, 6, B
7, 8, 9, C
*, 0, #, D

Input "D" or "d" and "x", the module will get this setting if the default setting was changed.

Second setting:

1, 2, 3, A
4, 5, 6, B
7, 8, 9, C
0, F, E, D

Input "S" or "s" and "x", the module will get this setting if the user want to use this one.

Third setting is for customer:

Input "C" or "c", then input 16 any ASCII values, and "x". The module will output new ASCII values if the key is pressed.

Note: The x must be Lowercase!!

SERIAL DATA FORMAT

The serial data format is eight data bits, no parity and 1 stop bit (8N1). Characters are sent using standard ASCII values. Baud rate may be 2400, 4800, 9600 and 19200 depending on the settings of J1 and J2.

LIABILITY WARNING

This device should be used only for experimental purposes. It has **NOT** gone through extensive testing and it could erase or corrupt some or all data on media cards that are inside the device. You assume to take your own risk when you purchase this device, and release the responsibility and liability from the manufacturer with no harm.

REGULATORY WARNING

This device is intended solely for experimental purpose, it is not in finished product form and is **NOT** FCC approved. If you wish to install these modules into non-experimental final finished products, you will be responsible to have the modules approved by the FCC at your own cost.

Basic Stamp ® Example Programs

```
'=====
' File.....JP Serial Keypad Module Test.BSP
' Purpose.....This test code use JP SerLCD Module and BS2sx
' Auther.....Jianping Sun
' Email.....JP@JianpingUSA.com
' WebSite.....www.JianpingUSA.com
' Started.....Aug 08, 2009
' Updated.....
'=====
' {$STAMP BS2sx}
' {$PBASIC 2.5}

SOUT      PIN      0          ' serial output for LCD
S_IN      PIN      1          ' serial input  for LCD
SOUT_KP   PIN      6          ' Serial output for Keypad
SIN_KP    PIN      7          ' Serial input for keypad
SerData   VAR      Byte
i         VAR      Byte

#SELECT $STAMP
#CASE BS2, BS2E, BS2PE
    T1200   CON      813
    T2400   CON      396
    T4800   CON      188
    T9600   CON      84
    T19K2   CON      32
    T38K4   CON      6
#CASE BS2SX, BS2P
    T1200   CON      2063
    T2400   CON      1021
    T4800   CON      500
    T9600   CON      240
    T19K2   CON      110
    T38K4   CON      45
#CASE BS2PX
    T1200   CON      3313
    T2400   CON      1646
    T480    CON      813
    T9600   CON      396
    T19K2   CON      188
    T38K4   CON      84
#ENDSELECT

Inverted   CON      $4000
```

Baud CON T4800 '+ Inverted

```
'=====
'                               Main program
'=====
Main:
  PAUSE 1000
  GOSUB FirstScreen
  PAUSE 100
  GOSUB FirstTest
  PAUSE 1000
  GOSUB SecondTest
  PAUSE 1000
  GOSUB CustomTest
END
'=====
'                               First Screen
'=====
FirstScreen:
  SEROUT SOUT, Baud, [17]           ' Clear screen
  SEROUT SOUT_KP, Baud, ["dx"]     ' Set default function
  PAUSE 5
  PAUSE 5
  SEROUT SOUT, Baud, [" JianpingUSA  "]
  SEROUT SOUT, Baud, [128 + 64]    ' Move sursor to 2nd row
  PAUSE 5
  SEROUT SOUT, Baud, ["JP Serial Keypad"]
  SEROUT SOUT, Baud, [128 + 16]    ' Move sursor to 3rd row
  PAUSE 5
  SEROUT SOUT, Baud, [" Module testing "]
  PAUSE 2000
RETURN
'=====
'                               First function test
'=====
FirstTest:
  SEROUT SOUT, Baud, [17]           ' Clear screen
  PAUSE 5
  SEROUT SOUT, Baud, ["JP Serial Keypad"]
  SEROUT SOUT, Baud, [128 + 64]    ' Move sursor to 3rd row
  PAUSE 5
  SEROUT SOUT, Baud, ["Function 1 test "]
  PAUSE 100
  SEROUT SOUT, Baud, [128 + 16]    ' Move sursor to 3rd row
  PAUSE 100
  SEROUT SOUT, Baud, [20]           ' Turn underline cursor on
  PAUSE 100
  i = 0
  FOR i = 0 TO 15
    SERIN 7, Baud, [SerData]
    PAUSE 5
    SEROUT SOUT, Baud, [SerData]
    PAUSE 5
  NEXT
RETURN
'=====
'                               Second function test
'=====
SecondTest:
  SEROUT SOUT, Baud, [17]           ' Clear screen
  PAUSE 5
  SEROUT SOUT_KP, Baud, ["sx"]     ' Set Second function
  PAUSE 5
  PAUSE 100
  SEROUT SOUT, Baud, ["JP Serial Keypad"]
  SEROUT SOUT, Baud, [128 + 64]    ' Move sursor to 3rd row
  PAUSE 5
  SEROUT SOUT, Baud, ["Function 2 test "]
```

```

    PAUSE 100
    SEROUT SOUT, Baud, [128 + 16]          ' Move sursor to 3rd row
    PAUSE 100
    i = 0
    FOR i = 0 TO 15
        SERIN 7, Baud, [SerData]
        PAUSE 5
        SEROUT SOUT, Baud, [SerData]
        PAUSE 5
    NEXT
RETURN

```

```

'=====
'                               Custom function test
'=====
CustomTest:
    SEROUT SOUT, Baud, [17]                ' Clear screen
    PAUSE 5
    SEROUT SOUT_KP, Baud, ["cABCDEFGHIJKLMNOp"] ' Set Custom chars
    PAUSE 100
    SEROUT SOUT, Baud, ["JP Serial Keypad"]
    SEROUT SOUT, Baud, [128 + 64]          ' Move sursor to 3rd row
    PAUSE 5
    SEROUT SOUT, Baud, [" Customer test  "]
    PAUSE 100
    SEROUT SOUT, Baud, [128 + 16]          ' Move sursor to 3rd row
    PAUSE 100
    i = 0
    FOR i = 0 TO 15
        SERIN 7, Baud, [SerData]
        PAUSE 5
        SEROUT SOUT, Baud, [SerData]
        PAUSE 5
    NEXT
RETURN

```

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