```
'{$STAMP BS2}
'{$PBASIC 2.5}
'This prgram is used with the Memsic 2125 accelerometers to make a basic
'seismograph that teachers can use to demonstrate seismic measurment
'principles.  The Basic Stamp measures the pulse width moducation
produced
'by the accelerometers and sends the data to either a computer with
'EXCEL spreadsheet software via StampDAQ, or by a data link transmitter.
'The math needed to translate the pulse width modulation into g force
'is accomplished within the spreadsheet to take advantage of the
computer's
'computational power (and to avoid the BStamp integer math limitations).
'The X-Y accelerometer is mounted flush so the main circuit board.  The
Z-X/Y
'accelerometer is mounted purpendicular to the main board and at a 45
degree
'angle to the X-Y axis.  Though not used in this program, the X/Y axis
'accelerometer can be measured and indicates the vector sum of the
'individual X-Y axis.

'The program will take and send 500 data points, then clear the graphs,
'and finally starts collection over again to provide a continuour
'output.  The program could be easily changed to await accelerations
'above a certain threshold before collecting data.

'The program could be modified to store acceleration data for
'later retreval and display with StampDAQ.  This would allow the device
'to be used in other ways to explore accelerations, for instance,
ammusment
'ride physics activities, vehicular accelerations, or dropped object and
'trejectory activities.

'set up variables
xraw  VAR Word
yraw  VAR Word
zraw  VAR Word

xin    CON 15      'x axis line
yin    CON 14      'y axis line
zin    CON 13      'z axis line
xyin   CON 12      'xy axis line
txPin  CON 8       'tx data line on data link transmitter
HiPulse CON 1

x     VAR    Word   'Variable for collection count

sPin    CON    16   'Serial Pin - P16, Programming port
Baud    CON    84   'Baud mode for a rate of 9600, 8-N-1
                    'BS2P, BS2SX use 240 for 9600, 8-N-1

'initialize communications with computer
PAUSE 1000       'Allow data communications to stabilize
SEROUT sPin,Baud,[CR]   'Send a lone CR to ensure StampDAQ buffer is
ready
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```
'use following line if using a data link transmitter
'SEROUT txPin,Baud,[CR]

'****************************************************************
Configure:
'set up data tables on the computer
SEROUT sPin,Baud,[CR,"LABEL,TIME, G-X, G-Y, G-Z",CR]    'Label 3 columns
with TIME, X, and SIN X

SEROUT sPin,Baud,["CLEARDATA",CR]        'Clear all data columns (A-J) in
Excel
'use following lines if using a data link transmitter
'SEROUT txPin,Baud,[CR,"LABEL,TIME, G-X, G-Y, G-Z",CR]
'SEROUT txPin,Baud,["CLEARDATA",CR]

Main:

  FOR x=0 TO 499                        '500 data points sent to StampDaq
                                        'then graph is cleared and more
                                        'data sent.
  PULSIN xin,HiPulse, xraw              'reading the PWM of the
accelerometers
  PULSIN yin,HiPulse, yraw
  PULSIN zin,HiPulse, zraw


  SEROUT sPin,Baud,["DATA,TIME,", DEC xraw, "," , DEC yraw,",", DEC
zraw,CR]
  'use following line if using a data link transmitter
  'SEROUT txPin,Baud,["DATA,TIME,", DEC xraw, "," , DEC yraw,",", DEC
zraw,CR]

  NEXT 'next x


  SEROUT sPin,Baud,["CLEARDATA",CR]    'Clear graphs and start collection
again
  'use following line if using a data link transmitter
  'SEROUT txPin,Baud,["CLEARDATA",CR
GOTO Main



END
```