

```

1 StampDAQ - DumpData.bs2
2 Transmit the frequencys to the excel terminal program.
3
4 {$STAMP BS2}
5 {$PBASIC 2.5}
6
7
8 -----[ Program Information about StampDAQ ]-----
9
10
11 SEROUT Sends serial data from programming port (P16)
12 [ ] defines data to be sent.
13
14 StampDAQ directives used:
15 DATA Places data into the next row of Excel spreadsheet
16 Up to 10 comma-separated values may be stored.
17 Each value following "DATA," must be separated by comma-strings ",",
18 DATA, val1, val2, val3, ..., val10
19 DATA, SDEC val1, ",", SDEC val2
20
21 Ex: SEROUT sPin, Baud, ["DATA, TIME,", SDEC TK,",", SDEC TC, CR] ***
22
23 LABEL Places headings on the columns for rows A-J using up to
24 10 comma-separated labels.
25 LABEL, label1, label2, ... label10
26
27 Ex: SEROUT sPin, Baud, [CR, "LABEL, Time, K, C", CR] ***
28
29 MSG Places a user-defined message in the StampDAQ message box
30 MSG, messages string (no commas in string)
31
32 Ex: SEROUT sPin,Baud,["MSG, Temp Probe Data", CR] ***
33
34 CMD? Queries StampDAQ for an instruction.
35 If "Download Data" is checked, "11" will be returned serially
36 If "Clear Stored Data" is checked, "22" will be returned serially
37
38 Ex: SEROUT sPin, Baud, ["CMD?", CR] ***
39
40 Must be followed by a SERIN command to retrieve the answer
41 in a variable
42
43 Ex: SERIN sPin, Baud, 500, timeout,[DEC CMD] ***
44
45 DUMPING Informs StampDAQ a data dump is starting.
46 StampDAQ clears rows in preperation.
47
48 Ex: SEROUT sPin, Baud, ["DUMPING", CR] ***
49
50 DONE Informs StampDAQ a data dump is complete.
51
52 Ex: SEROUT sPin, Baud, ["DONE", CR] ***
53
54 RESET Informs StampDAQ that a reset of data is complete.
55
56 Ex: SEROUT sPin, Baud, ["RESET", CR] ***
57
58 TIME Replaced by StampDAQ with real system time (DATE may also be used)
59 in DATA directive columns A and B only
60
61 Ex: SEROUT sPin, Baud,["DATA, TIME,", SDEC TK,",", SDEC TC, CR]***
62
63 CLEAR SHEET Clears columns A-J, rows 2 and on. (labels remain).
64
65
66 -----[ Variables/Constants/Pins ]-----

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67 PiezoSp      PIN    4          ' Speaker
68
69
70 CMD          VAR    Byte       'Hold returning command code
71 X            VAR    Word       'General counting variable
72
73 StoreVal1    VAR    Word
74 StoreVal2    VAR    Word
75 StoreVal3    VAR    Word
76
77 ReadStart    CON    1
78 ReadEnd      CON    270
79
80
81 sPin         CON    16        'Serial Pin - P16, Programming port
82 Baud         CON    84        'Baud mode for a rate of 9600, 8-N-1
83                                     'BS2P, BS2SX use 240 for 9600, 8-N-1
84
85 FreqDetectable  CON    3000
86
87
88 ' -----[ Initialization ]-----
89
90 FREQOUT PiezoSp, 2000, FreqDetectable 'Signal program start/reset.
91
92 SEROUT sPin, Baud, [CR]              'Send a lone CR to ensure StampDAQ buffer is
ready
93
94 Configure:
95     SEROUT sPin, Baud, [CR, "LABEL,, Location, PRRight, Temp(C)", CR] 'Label 3 columns
96     SEROUT sPin, Baud, ["CLEARDATA", CR] 'Clear all data columns (A-J) in Excel
97
98
99 ' -----[ Main ]-----
100
101 Main:
102     GOSUB SerialControl              'Go check for StampDAQ command
103     PAUSE 1000                       '1 second wait
104     GOTO Main
105
106
107 ' -----[ Subroutine SerialControl ]-----
108
109 SerialControl:                      'Send an "CMD?" String to StampDAQ and accepts returning data
110     CMD = 0                          'Clear out variable so last isn't repeated
111     SEROUT sPin, Baud, ["CMD?", CR]   'Send request to StampDAQ
112     SERIN sPin, Baud, 500, timeout, [DEC CMD] 'Catch returning data to CMD with 500mSec timeout
113     PAUSE 200                        '** Allow Stamp Echoing of StampDAQ data to clear **
114     IF CMD = 11 THEN Dump            'If CMD = 11 then dump the current data
115     Timeout:
116     RETURN
117
118 ' -----[ Check Box Subroutines ]-----
119
120 DUMP:                                'Dump Data from memory to StampDAQ
121     SEROUT sPin, Baud, ["DUMPING", CR] 'Tell StampDAQ a dump in progress
122
123     FOR X = ReadStart TO ReadEnd STEP 3 'Count through memory locations of stored data
124         READ X, StoreVal1              'Read memory location to StoreVal1
125         READ (X+1), StoreVal2          'Read memory location to StoreVal2
126         READ (X+2), StoreVal3          'Read memory location to StoreVal3
127         SEROUT sPin, Baud, ["DATA,,", DEC StoreVal1, ",", DEC StoreVal2, ",", DEC StoreVal3, CR] '
Send DATA to StampDAQ for use
128     NEXT
129
130     SEROUT sPin, Baud, ["DONE", CR]   'Inform StampDAQ data dump complete

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131 PAUSE 1000  
132 RETURN
```

```
'Wait one second'
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