ภาคภนวก ก.

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โปรแกรมควบคุมการทำงานของไมโครคอนโทรลเลอร์ (SBasic)

```
include "regs11.lib"

declare status
declare ch1
declare ch2
declare ch3
declare ch4
declare ch5
declare ch6
declare n

LSB_ADC:
      pokeb adctl, $10       'Select 4 LSB channels
      do
            status = peekb(adctl)
            status = status and $80
      loop until status = $80
      ch1 = peekb(adr1)
      ch2 = peekb(adr2)
      ch3 = peekb(adr3)
      ch4 = peekb(adr4)
      return

MSB_ADC:
      pokeb adctl, $14       'Select 4 MSB channels
      do
            status = peekb(adctl)
            status = status and $80
      loop until status = $80
      ch5 = peekb(adr1)
      ch6 = peekb(adr2)
      return

main:
      pokeb option, $93      'Enable ADC and use system E clock
      pokeb baud, $30        'set baud=9600
      pokeb sccr1, $00       'set 8 bit data, 1 stop bit
      pokeb sccr2, $0c       'Enable Tx/Rx pins
      do
            do
               n = inkey()
            loop while n = 0
            n = n and $00ff
            select n
                  case $31
                        gosub LSB_ADC
                        outch ch1
                  endcase
                  case $32
                        gosub LSB_ADC
                        outch ch2
                  endcase
                  case $33
```

```
                gosub LSB_ADC
                outch ch3
            endcase
            case $34
                gosub LSB_ADC
                outch ch4
            endcase
            case $35
                gosub MSB_ADC
                outch ch5
            endcase
            case $36
                gosub MSB_ADC
                outch ch6
            endcase
        endselect
    loop
    end
```

ภาคภนวก ข.

ภาคผนวก ข.

โปรแกรมควบคุมการทำงานของไมโครคอนโทรลเลอร์ (ASM6811)

```
* SBasic compiler (version 1.0) for the 68HC11
varbeg    equ       $0000
codebeg   equ       $f800
stkbeg    equ       $00ff
          org       codebeg                    start of code
start
          incl      start11.lib
          jmp       lbl999
* research.bas(1): include "regs11.lib"
* regs11.lib(1): const ioregs              = $1000       ' start of io regs
* regs11.lib(2): const porta               = ioregs + $00  ' i/o port a
* regs11.lib(3): const pioc                = ioregs + $02  ' i/o control reg
* regs11.lib(4): const portc               = ioregs + $03  ' i/o port c
* regs11.lib(5): const portb               = ioregs + $04  ' i/o port b
* regs11.lib(6): const portcl              = ioregs + $05  ' i/o control reg
* regs11.lib(7): const ddrc                = ioregs + $07  ' data direction reg c
* regs11.lib(8): const portd               = ioregs + $08  ' i/o port d
* regs11.lib(9): const ddrd                = ioregs + $09  ' data direction reg d
* regs11.lib(10): const porte              = ioregs + $0a  ' i/o port e
* regs11.lib(11): const cforc              = ioregs + $0b  ' force output compare
* regs11.lib(12): const oc1m               = ioregs + $0c  ' OC1 mask bits
* regs11.lib(13): const oc1d               = ioregs + $0d  ' OC1 data bits??
* regs11.lib(14): const tcnt               = ioregs + $0e  ' timer count reg
* regs11.lib(15): const tic1               = ioregs + $10  ' input capture #1
* regs11.lib(16): const tic2               = ioregs + $12  ' input capture #2
* regs11.lib(17): const tic3               = ioregs + $14  ' input capture #3
* regs11.lib(18): const toc1               = ioregs + $16  ' output compare #1
* regs11.lib(19): const toc2               = ioregs + $18  ' output compare #2
* regs11.lib(20): const toc3               = ioregs + $1a  ' output compare #3
* regs11.lib(21): const toc4               = ioregs + $1c  ' output compare #4
* regs11.lib(22): const toc5               = ioregs + $1e  ' output compare #5
* regs11.lib(23): const tctl1              = ioregs + $20  ' timer control reg #1
* regs11.lib(24): const tctl2              = ioregs + $21  ' timer control reg #2
* regs11.lib(25): const tmsk1              = ioregs + $22  ' timer mask #1
* regs11.lib(26): const tflg1              = ioregs + $23  ' timer flags reg #1
* regs11.lib(27): const tmsk2              = ioregs + $24  ' timer mask #2
* regs11.lib(28): const tflg2              = ioregs + $25  ' timer flags reg #2
* regs11.lib(29): const pactl              = ioregs + $26  ' pulse accum control
* regs11.lib(30): const pacnt              = ioregs + $27  ' pulse accum counter
* regs11.lib(31): const spcr               = ioregs + $28  ' SPI control reg
* regs11.lib(32): const spsr               = ioregs + $29  ' SPI status reg
* regs11.lib(33): const spdr               = ioregs + $2a  ' SPI data reg
* regs11.lib(34): const baud               = ioregs + $2b  ' baud rate reg
* regs11.lib(35): const sccr1              = ioregs + $2c  ' SCI reg 1
* regs11.lib(36): const sccr2              = ioregs + $2d  ' SCI reg 2
* regs11.lib(37): const scsr               = ioregs + $2e  ' SCI status reg
* regs11.lib(38): const scdr               = ioregs + $2f  ' SCI data reg
* regs11.lib(39): const adctl              = ioregs + $30  ' a/d control reg
* regs11.lib(40): const adr1               = ioregs + $31  ' a/d result reg 1
* regs11.lib(41): const adr2               = ioregs + $32  ' a/d result reg 2
* regs11.lib(42): const adr3               = ioregs + $33  ' a/d result reg 3
* regs11.lib(43): const adr4               = ioregs + $34  ' a/d result reg 4
* regs11.lib(44): const option             = ioregs + $39  ' option reg
* regs11.lib(45): const coprst             = ioregs + $3a  ' COP reset reg
* regs11.lib(46): const pprog              = ioregs + $3b  ' eeprom programming reg
* regs11.lib(47): const hprio              = ioregs + $3c  ' highest-priority reg
* regs11.lib(48): const init               = ioregs + $3d  ' memory map initialization
* regs11.lib(49): const test1              = ioregs + $3e  ' test reg 1
* regs11.lib(50): const config             = ioregs + $3f  ' system configuration
* regs11.lib(51):
* research.bas(2):
* research.bas(3): declare status
var000    equ       varbeg+0                 variable status
* research.bas(4): declare ch1
var001    equ       varbeg+2                 variable ch1
```

```
* research.bas(5):  declare ch2
var002    equ       varbeg+4            variable ch2
* research.bas(6):  declare ch3
var003    equ       varbeg+6            variable ch3
* research.bas(7):  declare ch4
var004    equ       varbeg+8            variable ch4
* research.bas(8):  declare ch5
var005    equ       varbeg+10           variable ch5
* research.bas(9):  declare ch6
var006    equ       varbeg+12           variable ch6
* research.bas(10): declare n
var007    equ       varbeg+14           variable n
* research.bas(11):
lbl000
* research.bas(12): LSB_ADC:
* research.bas(13):     pokeb adctl, $10      'Select 4 LSB channels
          ldd       #16
          stab      4144
* research.bas(14):     do
do000
          clra
          ldab      4144
          std       varbeg+0
* research.bas(15):          status = peekb(adctl)
          ldd       #128
          anda      varbeg+0
          andb      varbeg+1
          std       varbeg+0
* research.bas(16):          status = status and $80
* research.bas(17):     loop until status = $80
          ldd       varbeg+0
          cpd       #128
          beq       *+5
          jmp       do000
do001
          clra
          ldab      4145
          std       varbeg+2
* research.bas(18):     ch1 = peekb(adr1)
          clra
          ldab      4146
          std       varbeg+4
* research.bas(19):     ch2 = peekb(adr2)
          clra
          ldab      4147
          std       varbeg+6
* research.bas(20):     ch3 = peekb(adr3)
          clra
          ldab      4148
          std       varbeg+8
* research.bas(21):     ch4 = peekb(adr4)
* research.bas(22):     return
          rts
* research.bas(23):
bl001
* research.bas(24): MSB_ADC:
* research.bas(25):     pokeb adctl, $14      'Select 4 MSB channels
          ldd       #20
          stab      4144
* research.bas(26):     do
do002
          clra
          ldab      4144
          std       varbeg+0
* research.bas(27):          status = peekb(adctl)
          ldd       #128
          anda      varbeg+0
          andb      varbeg+1
          std       varbeg+0
* research.bas(28):          status = status and $80
* research.bas(29):     loop until status = $80
          ldd       varbeg+0
          cpd       #128
```

```
            beq     *+5
            jmp     do002
do003
            clra
            ldab    4145
            std     varbeg+10
* research.bas(30):     ch5 = peekb(adr1)
            clra
            ldab    4146
            std     varbeg+12
* research.bas(31):     ch6 = peekb(adr2)
* research.bas(32):     return
            rts
* research.bas(33):
lbl002
lbl999
* research.bas(34): main:
* research.bas(35):     pokeb option, $93     'Enable ADC and use system E clock
            ldd     #147
            stab    4153
* research.bas(36):     pokeb baud, $30       'set baud=9600
            ldd     #48
            stab    4139
* research.bas(37):     pokeb sccr1, $00      'set 8 bit data, 1 stop bit
            ldd     #0
            stab    4140
* research.bas(38):     pokeb sccr2, $0c      'Enable Tx/Rx pins
            ldd     #12
            stab    4141
* research.bas(39):     do
do004
* research.bas(40):         do
do006
            jsr     _inkey
            std     varbeg+14
* research.bas(41):             n = inkey()
* research.bas(42):         loop while n = 0
            ldd     varbeg+14
            cpd     #0
            bne     *+5
            jmp     do006
do007
            ldd     #255
            anda    varbeg+14
            andb    varbeg+15
            std     varbeg+14
* research.bas(43):         n = n and $00ff
* research.bas(44):         select n
            ldd     varbeg+14
* research.bas(45):             case $31
            cpd     #49
            beq     cas000
            jmp     cas001
cas000
* research.bas(46):                 gosub LSB_ADC
            jsr     lbl000
* research.bas(47):                 outch ch1
            ldd     varbeg+2
            tba
            jsr     _outch
* research.bas(48):             endcase
            jmp     sel000
cas001
* research.bas(49):             case $32
            cpd     #50
            beq     cas002
            jmp     cas003
cas002
* research.bas(50):                 gosub LSB_ADC
            jsr     lbl000
* research.bas(51):                 outch ch2
            ldd     varbeg+4
            tba
```

```
            jsr     _outch
* research.bas(52):             endcase
            jmp     sel000
cas003
* research.bas(53):             case $33
            cpd     #51
            beq     cas004
            jmp     cas005
cas004
* research.bas(54):                 gosub LSB_ADC
            jsr     lbl000
* research.bas(55):                 outch ch3
            ldd     varbeg+6
            tba
            jsr     _outch
* research.bas(56):             endcase
            jmp     sel000
cas005
* research.bas(57):             case $34
            cpd     #52
            beq     cas006
            jmp     cas007
cas006
* research.bas(58):                 gosub LSB_ADC
            jsr     lbl000
* research.bas(59):                 outch ch4
            ldd     varbeg+8
            tba
            jsr     _outch
* research.bas(60):             endcase
            jmp     sel000
cas007
* research.bas(61):             case $35
            cpd     #53
            beq     cas008
            jmp     cas009
cas008
* research.bas(62):                 gosub MSB_ADC
            jsr     lbl001
* research.bas(63):                 outch ch5
            ldd     varbeg+10
            tba
            jsr     _outch
* research.bas(64):             endcase
            jmp     sel000
cas009
* research.bas(65):             case $36
            cpd     #54
            beq     cas010
            jmp     cas011
cas010
* research.bas(66):                 gosub MSB_ADC
            jsr     lbl001
* research.bas(67):                 outch ch6
            ldd     varbeg+12
            tba
            jsr     _outch
* research.bas(68):             endcase
            jmp     sel000
cas011
* research.bas(69):         endselect
sel000
* research.bas(70):     loop
            jmp     do004
do005
* research.bas(71):     end
            bra     *
            incl    outch.lib
            incl    inkey.lib
            org     $fffe                   reset vector
            fdb     start
            end
```

ภาคภนวก ค.

ภาคภนวก ค.

โปรแกรมแสดงผลและติดต่อผ่านเครือข่ายอินเตอร์เน็ต

```
VERSION 4.00
Begin VB.Form Form1
  Auto3D        =  -1  'True
  BackColor     =  &H00C0C0C0&
  BorderStyle   =  3  'Fixed Double
  Caption       =  "Weather is fine?"
  ClientHeight  =  5640
  ClientLeft    =  1095
  ClientTop     =  1800
  ClientWidth   =  7455
  ControlBox    =  0  'False
  FillColor     =  &H00C0C0C0&
  ForeColor     =  &H00C0C0C0&
  Height        =  6330
  Left          =  1035
  LinkTopic     =  "Form1"
  MaxButton     =  0  'False
  ScaleHeight   =  5640
  ScaleWidth    =  7455
  Top           =  1170
  Width         =  7575
  Begin VB.TextBox Server
    Height        =  375
    Left          =  1320
    TabIndex      =  20
    Top           =  120
    Width         =  4935
  End
  Begin VB.TextBox Chan8
    Enabled       =  0  'False
    BeginProperty Font
      name          =  "MS Sans Serif"
      charset       =  1
      weight        =  700
      size          =  9.75
      underline     =  0  'False
      italic        =  0  'False
      strikethrough =  0  'False
    EndProperty
    ForeColor     =  &H00000000&
    Height        =  360
    Left          =  4680
    TabIndex      =  17
    Top           =  3840
    Width         =  1455
  End
  Begin VB.TextBox Chan7
    Enabled       =  0  'False
    BeginProperty Font
      name          =  "MS Sans Serif"
      charset       =  1
      weight        =  700
      size          =  9.75
      underline     =  0  'False
      italic        =  0  'False
      strikethrough =  0  'False
    EndProperty
    Height        =  360
    Left          =  5280
    TabIndex      =  15
    Top           =  3120
    Width         =  1935
  End
  Begin VB.TextBox Chan6
    Enabled       =  0  'False
    BeginProperty Font
      name          =  "MS Sans Serif"
      charset       =  1
```

```
    weight        = 700
    size          = 9.75
    underline     = 0  'False
    italic        = 0  'False
    strikethrough = 0  'False
  EndProperty
  Height      = 360
  Left        = 5280
  TabIndex    = 13
  Top         = 2400
  Width       = 1935
End
Begin VB.TextBox Chan5
  Enabled     = 0  'False
  BeginProperty Font
    name        = "MS Sans Serif"
    charset     = 1
    weight      = 700
    size        = 9.75
    underline   = 0  'False
    italic      = 0  'False
    strikethrough = 0  'False
  EndProperty
  Height      = 360
  Left        = 5280
  TabIndex    = 11
  Top         = 1800
  Width       = 1935
End
Begin VB.TextBox Chan4
  Enabled     = 0  'False
  BeginProperty Font
    name        = "MS Sans Serif"
    charset     = 1
    weight      = 700
    size        = 9.75
    underline   = 0  'False
    italic      = 0  'False
    strikethrough = 0  'False
  EndProperty
  Height      = 360
  Left        = 1920
  TabIndex    = 9
  Top         = 3840
  Width       = 1575
End
Begin VB.CommandButton Conn
  Caption     = "&Connect"
  BeginProperty Font
    name        = "MS Sans Serif"
    charset     = 1
    weight      = 700
    size        = 12
    underline   = 0  'False
    italic      = 0  'False
    strikethrough = 0  'False
  EndProperty
  Height      = 495
  Left        = 1320
  TabIndex    = 8
  Top         = 600
  Width       = 1455
End
Begin VB.Timer Timer1
  Enabled     = 0  'False
  Interval    = 60000
  Left        = 240
  Top         = 4680
End
Begin VB.CommandButton Quit
  Caption     = "&Quit"
  BeginProperty Font
    name        = "MS Sans Serif"
```

```
      charset         =  1
      weight          =  700
      size            =  12
      underline       =  0  'False
      italic          =  0  'False
      strikethrough   =  0  'False
    EndProperty
    Height            =  495
    Left              =  5520
    TabIndex          =  7
    Top               =  4680
    Width             =  1335
  End
  Begin VB.CommandButton Command1
    Caption           =  "&Start"
    BeginProperty Font
      name            =  "MS Sans Serif"
      charset         =  1
      weight          =  700
      size            =  12
      underline       =  0  'False
      italic          =  0  'False
      strikethrough   =  0  'False
    EndProperty
    Height            =  495
    Left              =  1680
    TabIndex          =  6
    Top               =  4680
    Visible           =  0  'False
    Width             =  1335
  End
  Begin VB.TextBox Chan3
    Enabled           =  0  'False
    BeginProperty Font
      name            =  "MS Sans Serif"
      charset         =  1
      weight          =  700
      size            =  9.75
      underline       =  0  'False
      italic          =  0  'False
      strikethrough   =  0  'False
    EndProperty
    Height            =  360
    Left              =  1560
    TabIndex          =  5
    Top               =  3120
    Width             =  1935
  End
  Begin VB.TextBox Chan2
    Enabled           =  0  'False
    BeginProperty Font
      name            =  "MS Sans Serif"
      charset         =  1
      weight          =  700
      size            =  9.75
      underline       =  0  'False
      italic          =  0  'False
      strikethrough   =  0  'False
    EndProperty
    Height            =  375
    Left              =  1560
    TabIndex          =  4
    Top               =  2400
    Width             =  1935
  End
  Begin VB.TextBox Chan1
    Enabled           =  0  'False
    BeginProperty Font
      name            =  "MS Sans Serif"
      charset         =  1
      weight          =  700
      size            =  9.75
      underline       =  0  'False
```

```
    italic          = 0   'False
    strikethrough   = 0   'False
  EndProperty
  Height          = 360
  Left            = 1560
  TabIndex        = 3
  Top             = 1800
  Width           = 1935
End
Begin VB.Line Line1
  BorderWidth     = 3
  X1              = 0
  X2              = 7440
  Y1              = 1320
  Y2              = 1320
End
Begin VB.Label Label10
  Alignment       = 2   'Center
  BackStyle       = 0   'Transparent
  Caption         = "Server"
  BeginProperty Font
    name          = "MS Sans Serif"
    charset       = 1
    weight        = 700
    size          = 12
    underline     = 0   'False
    italic        = 0   'False
    strikethrough = 0   'False
  EndProperty
  Height          = 375
  Left            = 120
  TabIndex        = 21
  Top             = 120
  Width           = 975
End
Begin VB.Label Label9
  BackStyle       = 0   'Transparent
  Caption         = "Wind"
  BeginProperty Font
    name          = "MS Sans Serif"
    charset       = 1
    weight        = 700
    size          = 9.75
    underline     = 0   'False
    italic        = 0   'False
    strikethrough = 0   'False
  EndProperty
  ForeColor       = &H0080FFFF&
  Height          = 375
  Left            = 120
  TabIndex        = 19
  Top             = 3840
  Width           = 735
End
Begin VB.Label Label8
  BackStyle       = 0   'Transparent
  Caption         = "Direction"
  BeginProperty Font
    name          = "MS Sans Serif"
    charset       = 1
    weight        = 700
    size          = 9.75
    underline     = 0   'False
    italic        = 0   'False
    strikethrough = 0   'False
  EndProperty
  ForeColor       = &H000000FF&
  Height          = 375
  Left            = 3600
  TabIndex        = 18
  Top             = 3840
  Width           = 975
End
```

```
  Begin VB.Label Label7
    BackStyle      =  0  'Transparent
    Caption        =  "Option3"
    BeginProperty Font
      name         =  "MS Sans Serif"
      charset      =  1
      weight       =  700
      size         =  9.75
      underline    =  0  'False
      italic       =  0  'False
      strikethrough  =  0  'False
    EndProperty
    Height         =  375
    Left           =  4200
    TabIndex       =  16
    Top            =  3120
    Width          =  975
  End
  Begin VB.Label Label6
    BackStyle      =  0  'Transparent
    Caption        =  "Option2"
    BeginProperty Font
      name         =  "MS Sans Serif"
      charset      =  1
      weight       =  700
      size         =  9.75
      underline    =  0  'False
      italic       =  0  'False
      strikethrough  =  0  'False
    EndProperty
    Height         =  375
    Left           =  4200
    TabIndex       =  14
    Top            =  2400
    Width          =  1095
  End
  Begin VB.Label Label5
    BackStyle      =  0  'Transparent
    Caption        =  "Option1"
    BeginProperty Font
      name         =  "MS Sans Serif"
      charset      =  1
      weight       =  700
      size         =  9.75
      underline    =  0  'False
      italic       =  0  'False
      strikethrough  =  0  'False
    EndProperty
    Height         =  375
    Left           =  4200
    TabIndex       =  12
    Top            =  1800
    Width          =  1215
  End
  Begin VB.Label Label4
    BackStyle      =  0  'Transparent
    Caption        =  "Speed"
    BeginProperty Font
      name         =  "MS Sans Serif"
      charset      =  1
      weight       =  700
      size         =  9.75
      underline    =  0  'False
      italic       =  0  'False
      strikethrough  =  0  'False
    EndProperty
    ForeColor      =  &H000000FF&
    Height         =  375
    Left           =  1080
    TabIndex       =  10
    Top            =  3840
    Width          =  735
  End
```

```
  Begin CSSocketWrench.Socket Socket2
    Index          =  0
    Left           =  720
    Top            =  5160
    _version       =  65536
    _extentx       =  741
    _extenty       =  741
    _stockprops    =  0
    autoresolve    =  -1  'True
    backlog        =  1
    binary         =  -1  'True
    blocking       =  -1  'True
    broadcast      =  0   'False
    buffersize     =  0
    hostaddress    =  ""
    hostfile       =  ""
    hostname       =  ""
    inline         =  0   'False
    interval       =  0
    keepalive      =  0   'False
    library        =  ""
    linger         =  0
    localport      =  0
    localservice   =  ""
    protocol       =  0
    remoteport     =  0
    remoteservice  =  ""
    reuseaddress   =  -1  'True
    route          =  -1  'True
    timeout        =  0
    type           =  2
    urgent         =  0   'False
  End
  Begin CSSocketWrench.Socket Socket1
    Left           =  720
    Top            =  4680
    _version       =  65536
    _extentx       =  741
    _extenty       =  741
    _stockprops    =  0
    autoresolve    =  -1  'True
    backlog        =  1
    binary         =  -1  'True
    blocking       =  -1  'True
    broadcast      =  0   'False
    buffersize     =  0
    hostaddress    =  ""
    hostfile       =  ""
    hostname       =  ""
    inline         =  0   'False
    interval       =  0
    keepalive      =  0   'False
    library        =  ""
    linger         =  0
    localport      =  0
    localservice   =  ""
    protocol       =  0
    remoteport     =  0
    remoteservice  =  ""
    reuseaddress   =  0   'False
    route          =  -1  'True
    timeout        =  0
    type           =  1
    urgent         =  0   'False
  End
  Begin VB.Label Label3
    BackStyle      =  0  'Transparent
    Caption        =  "Relativity Humidity"
    BeginProperty Font
      name         =  "MS Sans Serif"
      charset      =  1
      weight       =  700
      size         =  9.75
```

```
      underline     = 0   'False
      italic        = 0   'False
      strikethrough = 0   'False
    EndProperty
    ForeColor       = &H0080FFFF&
    Height          = 615
    Left            = 120
    TabIndex        = 2
    Top             = 2400
    Width           = 1215
  End
  Begin VB.Label Label2
    BackStyle       = 0  'Transparent
    Caption         = "Air Pressure"
    BeginProperty Font
      name          = "MS Sans Serif"
      charset       = 1
      weight        = 700
      size          = 9.75
      underline     = 0   'False
      italic        = 0   'False
      strikethrough = 0   'False
    EndProperty
    ForeColor       = &H0080FFFF&
    Height          = 375
    Left            = 120
    TabIndex        = 1
    Top             = 3120
    Width           = 1455
  End
  Begin VB.Label Label1
    BackStyle       = 0  'Transparent
    Caption         = "Temperature"
    BeginProperty Font
      name          = "MS Sans Serif"
      charset       = 1
      weight        = 700
      size          = 9.75
      underline     = 0   'False
      italic        = 0   'False
      strikethrough = 0   'False
    EndProperty
    ForeColor       = &H0080FFFF&
    Height          = 375
    Left            = 120
    TabIndex        = 0
    Top             = 1800
    Width           = 1455
  End
  Begin VB.Menu Option
    Caption         = "&Option"
    Begin VB.Menu Save
      Caption       = "&Save to INI file"
    End
    Begin VB.Menu hr
      Caption       = "-"
    End
    Begin VB.Menu Exe
      Caption       = "&EXE File"
    End
    Begin VB.Menu Update
      Caption       = "&Update Period"
      Begin VB.Menu M10
        Caption     = "1&0 Min"
        Checked     = -1  'True
      End
      Begin VB.Menu M30
        Caption     = "&30 Min"
      End
      Begin VB.Menu hr1
        Caption     = "&1 Hr"
      End
      Begin VB.Menu hr2
```

```
      Caption         =   "&2 Hr"
    End
    Begin VB.Menu hr3
      Caption         =   "3 &Hr"
    End
  End
  Begin VB.Menu Def_Serve
    Caption         =   "Default &Server"
  End
  Begin VB.Menu Data_Fi
    Caption         =   "&Data File"
  End
  Begin VB.Menu hor2
    Caption         =   "-"
  End
  Begin VB.Menu ptr
    Caption         =   "&Log File"
    Begin VB.Menu onptr
      Caption         =   "Start"
    End
    Begin VB.Menu ofptr
      Caption         =   "Stop"
      Checked         =   -1  'True
    End
  End
  Begin VB.Menu logname
    Caption         =   "L&og name"
  End
  Begin VB.Menu h3
    Caption         =   "-"
  End
  Begin VB.Menu qbar
    Caption         =   "&Quit"
    Shortcut        =   ^Q
  End
 End
End
Attribute VB_Name = "Form1"
Attribute VB_Creatable = False
Attribute VB_Exposed = False
Dim C(8) As Byte, FileData As String * 30
Dim FileLength As Byte, Log_Number As Integer
Dim iniFile, FileName, Windir, Serve, Log_Name As String
Dim EXEFile As String
Dim UpdateMin, Min As Byte
Dim LastSocket As Integer
Dim filetmp As Byte
Dim MyPrint As Printer
Dim Prnt_State As Boolean
Dim Header As String
Private Sub Command1_Click()
Dim i, j, a As Integer, tmp As Long
If Dir(EXEFile, 0) = "" Then
    a% = MsgBox(EXEFile + " not found", 16, "File not found")
    Unload Form1
 End If

 ret% = Shell(EXEFile, 6)
 Close (2)
 FileLength = FileLen(FileName)
 Open FileName For Binary Access Read As #2
 For j = 1 To FileLength
  Get #2, j, filetmp
  MidB(FileData, j, 1) = Chr(filetmp)
 Next j
 Close (2)
 Read_Data
 If Prnt_State = True Then
  Print_out
 End If
 For i = 1 To LastSocket
```

```
        Socket2(i).SendData = FileData
      End If
  Next i
Min = 1
  Timer1.Enabled = True
End Sub

Private Sub Conn_Click()
   If Socket1.Connected Then
      Socket1.Action = SOCKET_CLOSE
      Server.Enabled = True
      Conn.Enabled = True
      Conn.Caption = "&Connect"
      Timer1.Enabled = True
   Else
      Conn.Enabled = False
      Socket1.HostName = Trim$(Server.Text)
      Socket1.LocalPort = IPPORT_Thermo
      Socket1.RemotePort = IPPORT_Thermo
      Socket1.Action = SOCKET_CONNECT
   End If
End Sub

Private Sub Data_Fi_Click()
Dim dtmp As String
dtmp = InputBox("Input full path data file name to access", "Input datafile name", FileName)
If dtmp = "" Then dtmp = FileName
FileName = dtmp
End Sub

Private Sub Def_Serve_Click()
Dim stmp As String
stmp = InputBox("Input default server name", "Input server name", Serve)
If stmp = "" Then stmp = Serve
Serve = stmp
End Sub

Private Sub Exe_Click()
Dim etmp As String
etmp = InputBox("Input full path execute name", "Input EXE name", EXEFile)
If etmp = "" Then etmp = EXEFile
EXEFile = etmp
End Sub

Private Sub Form_Load()
Dim ax As String

   '
   ' Initialize the socket control
   '
   Socket1.AddressFamily = AF_INET
   Socket1.Binary = True
   Socket1.Blocking = False
   Socket1.Protocol = IPPROTO_IP
   Socket1.SocketType = SOCK_STREAM
   Socket1.LocalPort = IPPORT_Thermo
   Socket1.RemotePort = IPPORT_Thermo
   Socket1.Action = SOCKET_OPEN

   Socket2(0).AddressFamily = AF_INET
   Socket2(0).Protocol = IPPROTO_IP
   Socket2(0).SocketType = SOCK_STREAM
   Socket2(0).Blocking = False
   Socket2(0).LocalPort = IPPORT_Thermo
   Socket2(0).Action = SOCKET_LISTEN
   LastSocket = 0
   Prnt_State = False
   Windir = Environ("WinDir")
   iniFile = Windir + "\weather.ini"
   Open iniFile For Input Access Read As #5
     If EOF(5) = True Then Err ("Data_file line not found")
     Input #5, FileName
     If EOF(5) = True Then Err ("Update_time Line not found")
```

```
    Input #5, ax
    If EOF(5) = True Then Err ("Default_Server line ")
    Input #5, Serve
    If EOF(5) = True Then Err ("EXE line not found")
    Input #5, EXEFile
    If EOF(5) = True Then Err ("Log file line not found")
    Input #5, Log_Name
  Close (5)
  FileName = Right(FileName, Len(FileName) - 10)
  If Dir(FileName, 0) = "" Then
    a% = MsgBox(" Data File not found", 16, "Error in ini file")
    Unload Form1
  End If
  If EXEFile = "" Then
    a% = MsgBox(" EXE line not found", 16, "Error in ini file")
    Unload Form1
  End If

  EXEFile = Right(EXEFile, Len(EXEFile) - 4)
  ax = Right(ax, Len(ax) - 12)
  UpdateMin = Val(ax)
  Serve = Right(Serve, Len(Serve) - 15)
  Log_Name = Right(Log_Name, Len(Log_Name) - 9)
  Server.Text = Serve
  Command1_Click
End Sub

Private Sub Form_Unload(Cancel As Integer)
  Dim i As Integer
  If Socket1.Connected Then Socket1.Action = SOCKET_CLOSE
  If Socket2(0).Listening Then Socket2(0).Action = SOCKET_CLOSE
  For i = 1 To LastSocket
    If Socket2(i).Connected Then Socket2(i).Action = SOCKET_CLOSE
  Next i
  End
End Sub

Private Sub Hr1_Click()
M10.Checked = False
M30.Checked = False
Hr2.Checked = False
Hr3.Checked = False

Hr1.Checked = True
UpdateMin = 60
End Sub

Private Sub Hr2_Click()
M10.Checked = False
M30.Checked = False
Hr1.Checked = False
Hr3.Checked = False

Hr2.Checked = True
UpdateMin = 120
End Sub

Private Sub Hr3_Click()
M10.Checked = False
M30.Checked = False
Hr2.Checked = False
Hr1.Checked = False

Hr3.Checked = True
UpdateMin = 180
End Sub

Private Sub logname_Click()
Dim stmp As String
stmp = InputBox("Input Log-File name with full path", "Input Log-File name", Log_Name)
If stmp = "" Then stmp = Log_Name
Log_Name = stmp
```

```
End Sub

Private Sub M10_Click()
Hr1.Checked = False
M30.Checked = False
Hr2.Checked = False
Hr3.Checked = False

M10.Checked = True
UpdateMin = 10
End Sub

Private Sub M30_Click()
M10.Checked = False
Hr1.Checked = False
Hr2.Checked = False
Hr3.Checked = False

M30.Checked = True
UpdateMin = 30
End Sub

Private Sub ofptr_Click()
ofptr.Checked = True
onptr.Checked = False
Prnt_State = False
End Sub

Private Sub onptr_Click()
Header = "   Date" & Space(10) & "Time" & Space(10) & "Temp       A-P      R-H      W-S      W-D"
ofptr.Checked = False
onptr.Checked = True
Prnt_State = True
Log_Number = FreeFile()
Open Log_Name For Append As Log_Number
Print #Log_Number, Header
Close Log_Number
Print_out
'MyPrint.EndDoc
End Sub

Private Sub qbar_Click()
   Quit_Click
End Sub


Private Sub Quit_Click()
  Unload Me
End Sub

Private Sub Save_Click()
   Open iniFile For Output As #7
     Print #7, "Data_file=" + FileName
     Print #7, "Update_time=" + UpdateMin
     Print #7, "Default_server=" + Serve
     Print #7, "EXE=" + EXEFile
     Print #7, "Log_File=" + Log_Name
   Close #7
End Sub

Private Sub Socket1_Connect()
   Conn.Caption = "&Disconnect"
   Conn.Enabled = True
   Timer1.Enabled = False
End Sub

Private Sub Socket1_Read(DataLength As Integer, IsUrgent As Integer)
  Socket1.RecvLen = DataLength
  FileData = Socket1.RecvData
  FileLength = DataLength
  Read_Data
End Sub
Private Sub Socket2_Accept(Index As Integer, SocketId As Integer)
```

```
    Dim i As Integer

    For i = 1 To LastSocket
        If Not Socket2(i).Connected Then Exit For
    Next i

    If i > LastSocket Then
        LastSocket = LastSocket + 1: i = LastSocket
        Load Socket2(i)
    End If

    Socket2(i).AddressFamily = AF_INET
    Socket2(i).Protocol = IPPROTO_IP
    Socket2(i).SocketType = SOCK_STREAM
    Socket2(i).Binary = True
    Socket2(i).BufferSize = 1024
    Socket2(i).Blocking = False
    Socket2(i).Accept = SocketId
End Sub

Private Sub Socket2_Disconnect(Index As Integer)
    Socket2(Index).Action = SOCKET_CLOSE
End Sub

Private Sub Timer1_Timer()
If UpdateMin = Min Then
 Command1_Click
Else
    Min = Min + 1
End If
End Sub

Private Sub Read_Data()
Dim i, j As Integer
j = 1
   For i = 1 To 22 Step 3
       C(j) = Asc(Mid(FileData, i, 1))
       j = j + 1
Next i
    Chan1.Text = Format((298 * C(1) / 256 * 5 / 2.982) - 273, "###0")
    Chan2.Text = Format(C(2) * 95 / 256, "###0")
    Chan3.Text = Format(C(3) * 5 / 12.5 * 4 / 256, "###0")
    Chan4.Text = Format(C(4) * 25 / 256, "###0")
    Chan8.Text = C(8)
    Chan6.Text = C(6)
    Chan7.Text = C(7)
    Chan5.Text = Format(C(5) * 360 / 256, "###0")
End Sub
Private Sub Err(St As String)
    a% = MsgBox(St, 16, "Error in ini file")
    Unload Form1
End Sub
Private Sub Print_out()
Dim MyTime, MyDate As String
MyTime = Format(Time, "hh:mm:ss")
MyDate = Format(Date, "dd/mm/yy")
Log_Number = FreeFile()
Open Log_Name For Append As Log_Number

Print #Log_Number, MyDate & Space(3) & MyTime & Space(5) & Chan1.Text & Space(7) & Chan2.Text & Space(7) &
Chan3.Text & Space(7) & Chan4.Text & Space(7) & Chan8.Text
Close Log_Number

End Sub
```