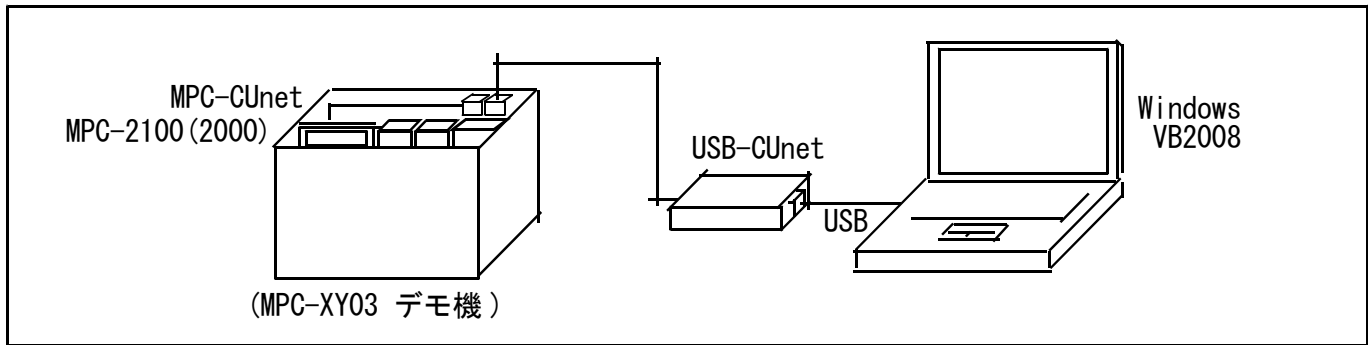


Application Note		資料作成 090421	資料番号 an2k-010
テーマ	USB-CUnet~VB2008 Express Edition サンプル		
使用機器	MPC-2100 (MPC-2000)、MPC-CUnet・USB-CUnet、Windows PC、VB2008 Express Edition		

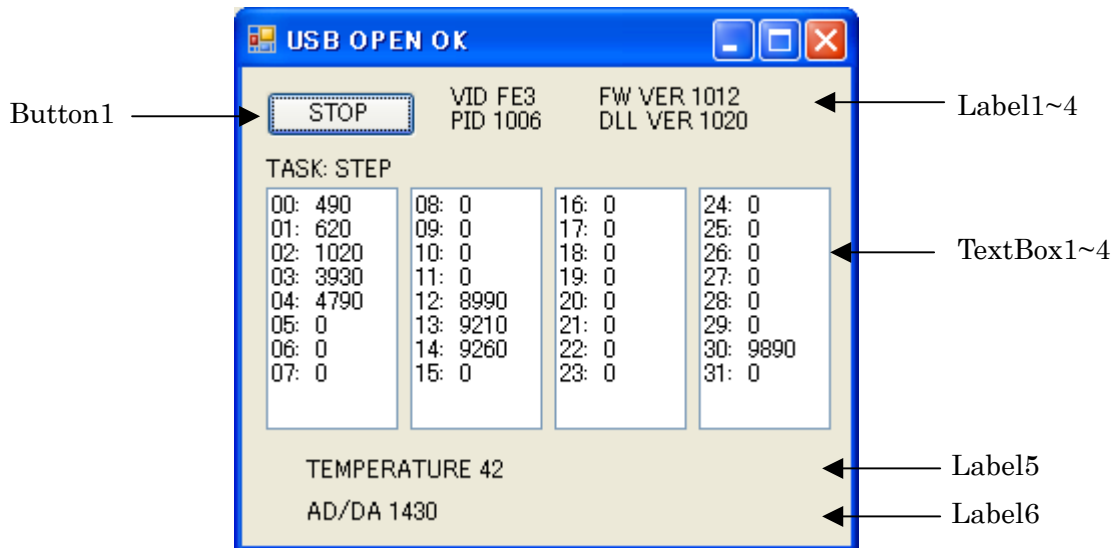
■機器構成



■概要

CUnet-Mail でタスク文番号をモニタ、グローバルメモリ読み込みで温度と AD/DA 電圧を表示しています。usbacunet.dll の扱いは殆ど VB6 と同じですが Long、Any が Integer になります。

■プログラム



Module Module1

```

Declare Function cunet_usb_open Lib "usbacunet.dll" () As Integer
Declare Function cunet_fw_vid Lib "usbacunet.dll" () As Integer
Declare Function cunet_fw_pid Lib "usbacunet.dll" () As Integer
Declare Function cunet_dll_ver Lib "usbacunet.dll" () As Integer
Declare Function cunet_fw_ver Lib "usbacunet.dll" () As Integer
Declare Sub cunet_init Lib "usbacunet.dll" Alias "init_cunet" _
    (ByVal sa As Integer, ByVal ow As Integer, ByVal en As Integer)
Declare Function cunet_in Lib "usbacunet.dll" (ByVal adr As Integer, ByVal siz As Integer) As Integer
Declare Sub cunet_out Lib "usbacunet.dll" (ByVal dat As Integer, ByVal adr As Integer, ByVal siz As Integer)
Declare Sub cunet_on Lib "usbacunet.dll" (ByVal adr As Integer)
Declare Sub cunet_off Lib "usbacunet.dll" (ByVal adr As Integer)
Declare Function cunet_sw Lib "usbacunet.dll" (ByVal adr As Integer) As Integer
Declare Function cunet_post_pnt Lib "usbacunet.dll" _
    (ByVal dest_sa As Integer, ByVal ar_top As Integer, ByRef send_ar As Integer) As Integer
Declare Function cunet_post_mbk Lib "usbacunet.dll" _
    (ByVal dest_sa As Integer, ByVal ar_top As Integer, ByRef send_ar As Integer) As Integer
Declare Function cunet_req_pnt Lib "usbacunet.dll" _
    (ByVal req_sa As Integer, ByVal ar_top As Integer, ByRef rcv_ar As Integer) As Integer
Declare Function cunet_req_mbk Lib "usbacunet.dll" _
    (ByVal req_sa As Integer, ByVal ar_top As Integer, ByRef rcv_ar As Integer) As Integer

Public Const Cu_Chr As Integer = 1 '1byte 符号無
Public Const Cu_Int As Integer = 2 '2Byte 符号付

```

```
Public Const Cu_Wrd As Integer = 4 '2Byte 符号無
Public Const Cu_Lng As Integer = 8 '4Byte 符号付
```

```
' =====
' system API
Public Declare Sub Sleep Lib "kernel32" (ByVal dwMilliseconds As Long)
```

```
End Module
```

```
Public Class Form1
```

```
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button1.Click

    If Timer1.Enabled Then
        Timer1.Enabled = False
        Me.Text = "TIMER STOPPED"
        Button1.Text = "START"
        Exit Sub
    End If

    If cunet_usb_open = 1 Then ' USB-CUnet OPEN
        Me.Text = "USB OPEN OK"
    Else
        Me.Text = "USB OPEN NG"
        Exit Sub
    End If
    Button1.Text = "STOP"

    Label1.Text = "VID " + Hex$(cunet_fw_vid) ' USB-CUnet Vender ID
    Label2.Text = "PID " + Hex$(cunet_fw_pid) ' USB-CUnet Product ID
    Label3.Text = "FW VER " + CStr(cunet_fw_ver) ' USB-CUnet Firmware Version
    Label4.Text = "DLL VER " + CStr(cunet_dll_ver) ' USB-CUnet DLL Version

    cunet_init (255, 0, 0) ' USB-CUnet Reset
    Sleep(500)
    cunet_init (0, 4, 11) ' USB-CUnet Initialize
    Sleep(500)
    Timer1.Interval = 500
    Timer1.Enabled = True
End Sub
```

```
End Sub
```

```
Private Sub Form1_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
    Button1.Text = "START"
    Label7.Text = "TASK: STEP"
End Sub
```

```
Private Sub Timer1_Tick(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Timer1.Tick
    Dim ar(0 To 119) As Integer
    Dim res, i, r, c As Integer
    Dim s As String

    res = cunet_req_mbk(4, 7836, ar(0)) ' MBK Area Read. param= Request SA, MBK top addr, Storage array

    TextBox1.Clear()
    TextBox2.Clear()
    TextBox3.Clear()
    TextBox4.Clear()
    i = 0
    For c = 1 To 4
        For r = 0 To 7
            s = Format((i / 2), "00") + ": " + CStr(ar(i) + ar(i + 1) * &H10000)
            If c = 1 Then TextBox1.SelectedText = s + Chr(13) + Chr(10)
            If c = 2 Then TextBox2.SelectedText = s + Chr(13) + Chr(10)
            If c = 3 Then TextBox3.SelectedText = s + Chr(13) + Chr(10)
            If c = 4 Then TextBox4.SelectedText = s + Chr(13) + Chr(10)
            i = i + 2
        Next r
    Next c

    Label15.Text = "TEMPERATURE " + CStr(cunet_in(2064, Cu_Int)) ' Global Memory Read
    Label16.Text = "AD/DA " + CStr(cunet_in(2080, Cu_Wrd)) ' Global Memory Read
End Sub
```

End Sub

End Class

■補足

- MPC 側の CUnet グローバルメモリ書き込みは下記のように行っています。
(MPC-2000 サイト > DOWNLOAD > サンプルプログラム > mpc2k_tutorial.zip 内 xy03_tutorial.f2k から抜粋)

温度の書き込み

```
GOSUB *RS-485_READ_ONDO 1 /* 温調器 現在温度読出サブルーチン、res_data$に温度が入る  
OUT HEX(res_data$) 2064 /* CUnet Global Area Write
```

AD/DA 電圧の書き込み

```
A_=AD(0) /* MPC-AD12 ch0 アナログ入力  
OUT A_ 2080~Wrd /* CUnet Global Area Write
```

- タスク文番号のモニタ方法については アプリケーションノート an2k-006 をご覧下さい。
- MPC-XY03 デモ機 については MPC-2000 チュートリアル をご覧下さい。

以上