

```
unit Unit3;
```

```
interface
```

```
uses
```

```
Windows, Messages, SysUtils, Variants, Classes, Graphics, Controls, Forms,  
Dialogs, CPort, LPCOMPONENT, SLCommonGen, SLSignalGen, Menus,  
SLComponentCollection, LPDrawLayers, SLScope, StdCtrls;
```

```
type
```

```
TForm1 = class(TForm)
```

```
  grp1: TGroupBox;
```

```
  lbl1: TLabel;
```

```
  lbl2: TLabel;
```

```
  lbl3: TLabel;
```

```
  edt1: TEdit;
```

```
  rb1: TRadioButton;
```

```
  rb2: TRadioButton;
```

```
  grp2: TGroupBox;
```

```
  lbl4: TLabel;
```

```
  lbl5: TLabel;
```

```
  lbl6: TLabel;
```

```
  edt2: TEdit;
```

```
  edt3: TEdit;
```

```
  grp3: TGroupBox;
```

```
btn1: TButton;

mmo1: TMemo;

grp4: TGroupBox;

slscp1: TSLScope;

btn2: TButton;

btn3: TButton;

btn4: TButton;

mm1: TMainMenu;

Phuongthuc1: TMenuItem;

MAYTINH1: TMenuItem;

BANPHIM1: TMenuItem;

About1: TMenuItem;

Exit1: TMenuItem;

SLSignalGen1: TSLSignalGen;

cmdtpckt1: TComDataPacket;

cmprt1: TComPort;

procedure About1Click(Sender: TObject);

procedure Exit1Click(Sender: TObject);

procedure MAYTINH1Click(Sender: TObject);

procedure BANPHIM1Click(Sender: TObject);

procedure btn2Click(Sender: TObject);

procedure FormCreate(Sender: TObject);

procedure btn3Click(Sender: TObject);

procedure btn4Click(Sender: TObject);

procedure cmdtpckt1Packet(Sender: TObject; const Str: String);
```

```

procedure btn1Click(Sender: TObject);

procedure rb1Click(Sender: TObject);

procedure rb2Click(Sender: TObject);

private
    { Private declarations }

public
    { Public declarations }

end;

const
    startbyte=$61; // Khai bao tin hieu nhan hand shaking bat dau la 'a'
    stopbyte=$7A; // Khai bao tin hieu nhan hand shaking ket thuc la 'z'

var
    Form1: TForm1;

implementation

{$R *.dfm}

procedure TForm1.About1Click(Sender: TObject);
begin
    messagedlg('Chuong trinh giao tiep giua PC - VDK qua cong COM'+chr(13)+
    'Nhiem vu: Dieu khien va giam sat mach phat tan so 20Hz-100KHz'+chr(13)+
    'Nhom 22A' +chr(13)+
    'Gom cac thanh vien:' +chr(13)+chr(13)+
    '01. Ha Ngoc Hai'+chr(13)+

```

```
'02. Hoang Dinh Ha'+chr(13)+  
'03. Vo Hoang Phuc'+chr(13)+  
'04. Le Van Hieu'+chr(13)+  
'05. Duong Long Thanh'+chr(13)+  
'06. Duong Hien Tan'+chr(13)+  
'07. Hoang Minh Thai'+chr(13),mtInformation,[mbOk],0);  
end;
```

```
procedure TForm1.Exit1Click(Sender: TObject);  
begin  
  cmp1.Close ;  
  Close;  
end;
```

```
procedure TForm1.MAYTINH1Click(Sender: TObject);  
begin  
  cmp1.Close ;  
  cmp1.Open ;  
  cmp1.WriteString(chr($50));  
  edt1.Visible :=true;  
  edt1.Text :='';  
  //edt1.SetFocus ;  
  btn2.Visible :=true;  
  btn3.Visible :=true;  
  edt2.Visible :=false ;
```

```
edt3.Visible :=false ;

rb1.Visible :=true ;

rb2.Visible :=true ;

rb1.Checked :=false;

rb2.Checked :=false ;

SLSignalGen1.Amplitude :=0;

mmo1.Text :='PC lam nhien vu dieu khien,nhap tan so can phat vao nam trong khoang 20Hz den
100KHz va click OK';

end;
```

```
procedure TForm1.BANPHIM1Click(Sender: TObject);
```

```
begin
```

```
  cmprt1.Close ;
```

```
  cmprt1.Open ;
```

```
  cmprt1.WriteStr(chr($4B));
```

```
  edt1.Visible :=false ;
```

```
  btn2.Visible :=false;
```

```
  btn3.Visible :=false;
```

```
  edt2.Visible :=true ;
```

```
  edt3.Visible :=true ;
```

```
  rb1.Visible :=false ;
```

```
  rb2.Visible :=false ;
```

```
  SLSignalGen1.Amplitude :=0;
```

```
  mmo1.Text :='PC lam nhien vu giam sat, xin doi tan so phat tu VDK len';
```

```
end;
```

```

procedure TForm1.btn2Click(Sender: TObject);

var st,st1,st2 :string;

    j,k,tmp,dem:integer;

begin
    st:=edt1.Text ;

    st2:=edt1.Text ;

    if (st='') then

        begin

            messagedlg('ban can nhap gia tri tan so can phat vao',mtError,[mbOk],0);

            edt1.SetFocus ;

        end

    else

        if (StrToInt(st)<20) or (StrToInt(st)>100000) then

            begin

                messagedlg('Ban can nhap gia tri tan so can phat trong khoang 20Hz-100KHz',mtError,[mbOk],0);

                edt1.SetFocus ;

            end

        else

            begin

                if rb1.Checked =true then

                    begin

                        cmprt1.WriteStr(chr($55)); // Xuat tin hieu bao dang song ra la vuong(U) xuong VDK

                        SLSignalGen1.Start ;

                    end

                end

            end

        end

    end

```

```

    SLSignalGen1.Amplitude :=2.5;

    SLSignalGen1.SignalType :=stsquare;

    SLSignalGen1.Frequency :=StrToInt(st2);

end

else

begin

    if rb2.Checked =true then

        begin

            cmprt1.WriteStr(chr($49)); // Xuat tin hieu bao dang song ra la sin(I) xuong VDK

            SLSignalGen1.Start ;

            SLSignalGen1.Amplitude :=2.5;

            SLSignalGen1.SignalType :=sttone;

            SLSignalGen1.Frequency :=StrToInt(st2);

        end

    else

        if (rb1.Checked =false ) and (rb2.Checked =false ) then

            begin

                messagedlg('Ban chua chon dang song hien thi',mtError,[mbOk],0);

            end

        // else

        // begin

        // cmprt1.WriteStr(chr($55)); // Xuat tin hieu bao dang song ra la vuong(U) xuong VDK

```

```

    //  SLSignalGen1.Start ;

    //  SLSignalGen1.Amplitude :=2;

    //  SLSignalGen1.SignalType :=stsquare;

    // SLSignalGen1.Frequency :=StrToInt(st2);

    //  end;

end;

begin

    messagebeep(0);

    k:=length(edt1.Text );

    cmprt1.WriteStr(chr(k));

    dem:=6-k;  // Bien dem bao' so luong 0 can dien vao

// if dem=5 then

//  begin

//    cmprt1.WriteStr(chr($0));

//    cmprt1.WriteStr(chr($0));

//    cmprt1.WriteStr(chr($0));

//    cmprt1.WriteStr(chr($0));

//    cmprt1.WriteStr(chr($0));

// end;


if dem=4 then

begin

    cmprt1.WriteStr(chr($0));

    cmprt1.WriteStr(chr($0));

```

```

    cmprt1.WriteStr(chr($0));

    cmprt1.WriteStr(chr($0));

end;

if dem=3 then

begin

    cmprt1.WriteStr(chr($0));

    cmprt1.WriteStr(chr($0));

    cmprt1.WriteStr(chr($0));

end;

if dem=2 then

begin

    cmprt1.WriteStr(chr($0));

    cmprt1.WriteStr(chr($0));

end;

if dem=1 then

begin

    cmprt1.WriteStr(chr($0));

end;


for j:=1 to k do

begin

tmp:=StrToInt(st[j]);  // Doi ki tu st[j] sang so

    st1:=chr(tmp);      // Tim ma ASCII tai vi tri tmp

    cmprt1.WriteStr(st1); // Gui ma ASCII do' xuong VDK

end;

```

```

        if (rb1.Checked =true ) or (rb2.Checked =true ) then
            begin
                mmo1.Text :='Ban da nhan nut OK. Du lieu da gui xuong VDK';
            end
        else
            begin
                mmo1.Text :='Ban chua chon dang song. Vui long chon !!!';
            end;
        end;
    end;

end;

end ;

procedure TForm1.FormCreate(Sender: TObject);
var today:Tdatetime;
begin

    cmdtpckt1.StartString :=chr(startbyte); // Bat dau hand shaking
    cmdtpckt1.StopString :=chr(stopbyte); // Ket thuc hand shaking

    today:=now();

    caption:=('Chuong trinh giao tiep giua PC va MPTS- Hom nay ngay :')+DateToStr(today)+' - '+
    TimeToStr(today);

    SLSignalGen1.Amplitude :=0;

    mmo1.Text :='Can chon phuong thuc lam viec cua PC:diu khien hay giam sat?';

end;

procedure TForm1.btn3Click(Sender: TObject);

```

```
begin  
    edt1.Text := "";  
    edt2.Text := "";  
    edt3.Text := "";  
    edt1.SetFocus ;  
    rb1.Checked := false;  
    rb2.Checked := false ;  
    mmo1.Text := "";  
    SLSignalGen1.Amplitude := 0;  
    cmprt1.Close ;  
    cmprt1.Open ;
```

```
end;
```

```
procedure TForm1.btn4Click(Sender: TObject);
```

```
begin
```

```
    cmprt1.Close ;
```

```
    Close;
```

```
end;
```

```
    procedure TForm1.cmdtpckt1Packet(Sender: TObject; const Str: String);
```

```
var s, str1: string;
```

```
    sum: integer;
```

```
begin
```

```
    str1 := str;
```

```

sum:=ord(str1[6])+ord(str1[5])*10+ord(str1[4])*100+ord(str1[3])*1000+ord(str1[2])*10000+ord(str1[1])
*100000;

s:=IntToStr(sum);

edt2.Text :=s;

LSignalGen1.Start ;

LSignalGen1.Amplitude :=2.5;

LSignalGen1.SignalType :=stsquare;

LSignalGen1.frequency:=strtoint(edt2.Text);

edt3.Text :='TAN SO TU 20HZ DEN 100KHZ';

mmo1.Text :='DANG GIAO TIEP TU BAN PHIM ,PC LAM NHIEM VU GIAM SAT';

end;

procedure TForm1.btn1Click(Sender: TObject);

begin

  cmppt1.ShowSetupDialog;

  if messagedlg('Chon Ok de luu thong so moi'+chr(13)+'Chon Cancel de lay lai thong so
cu.',mtConfirmation,[mbOk,mbCancel],0)=mrOk then

    begin

      if cmppt1.Connected then

        begin

          messagedlg('Cong COM dang mo'+chr(13)+'Nhan OK de dong cong COM va mo lai cong
COM',mtwarning,[mbOk],0);

          cmppt1.Close;

          cmppt1.Open ;

        end

      else

```

```
        cmppt1.Open;
    end;

    cmppt1.Open;

    messagedlg('Cong COM da duoc mo va thiet lap theo thong so ban chon.',mtwarning,[mbOK],0);
end;
```

```
procedure TForm1.rb1Click(Sender: TObject);
begin
    edt1.SetFocus ;
end;
```

```
procedure TForm1.rb2Click(Sender: TObject);
begin
    edt1.SetFocus ;
end;
```

```
end.
```