```
'------------- GPS_MONI---------------------
'
'   geliefertes Format:
'
'-> $GPGGA,072344.187,5141.6192,N,00752.0280,E,1,06,1.6,119.9,M,47.4,M,0.0,0000*7B
'   $GPGLL,5141.6192,N,00752.0280,E,072344.187,A*3B
'   $GPGSA,A,3,13,23,11,17,04,20,,,,,,,2.6,1.6,2.1*31
'   $GPGSV,3,1,10,23,78,167,47,20,55,091,36,13,50,213,45,04,41,300,32*7D
'   $GPGSV,3,2,10,17,22,237,44,31,21,042,00,11,14,157,46,01,10,049,00*77
'   $GPGSV,3,3,10,25,09,173,00,02,08,314,00*7F
'   $GPRMC,072344.187,A,5141.6192,N,00752.0280,E,0.04,342.98,070707,,*0B
'-> $GPVTG,342.98,T,,M,0.04,N,0.1,K*61
'   $GPMSS,0,0,0.000000,200,*5A
'
'-> : nur diese Zeilen werden benötigt
'
'
'$prog &HFF , &HEF , &HD9 , &H00                              ' Fuse-Bits

$regfile = "m8def.dat"
$crystal = 12000000

Config Lcd = 20 * 4
Config Lcdpin = Pin , Db4 = Portc.0 , Db5 = Portc.1 , Db6 = Portc.2 , Db7 = Portc.3 , E = Portc.4 , Rs =
Portc.5


'--------------für RS232--------------------

$baud = 4800

On URXC OnRXD                                                 'Interrupt-Routine setzen
Enable URXC

Dim ser_buf(2) As String * 82                                'max 2 x 82 Zeichen bei GPS
DIM s11 as String * 11
DIM zeile1 as Byte
DIM zeile2 as Byte
DIM i as Integer
DIM arr(13) as String * 11

Sreg.7 = 1                                                    'Interrupts freigeben


'--------------Main--------------------------


Ddrb.1 = 1                                                    'LED zum Blinken

cls
cursor off noblink

lcd "Warten auf GPS-Maus.";
locate 3 , 1
lcd "(c) DiLi-Soft";
locate 4 , 1
lcd "10.07.2007";
wait 2                                                        'Maus-Init abwarten

print "$PSRF103,00,00,01,00*24"                               'GGA einschalten ohne Checksum
print "$PSRF103,05,00,01,00*21"                               'VTG einschalten ohne Checksum
print "$PSRF103,01,00,00,01*25"                               'GLL abschalten
print "$PSRF103,02,00,00,01*26"                               'GSA abschalten
print "$PSRF103,03,00,00,01*27"                               'GSV abschalten
print "$PSRF103,04,00,00,01*20"                               'RMC abschalten
print "$PSRF103,06,00,00,01*22"                               'MSS abschalten

do
   s11 = left(ser_buf(1) , 5)
loop until s11 = "GPGGA" or s11 = "GPVTG"
locate 2 , 1
lcd "GPS-Maus gefunden!";
wait 1

if s11 = "GPGGA" then
   zeile1=1
   zeile2=2
else
   zeile1 = 2
   zeile2=1
```

```
end IF

cls
Do
   Portb.1 = 1                                                 'LED ein

'  Format: GPGGA,072344.187,5141.6192,N,00752.0280,E,1,06,1.6,119.9,M,47.4,M,0.0,0000

   do
      i = split(ser_buf(zeile1) , arr(1) , ",")
   loop until i > 12                                           ' 12 + 1 sind nötig, damit der 12. !voll!
gefüllt ist

   arr(2) = left(arr(2) , 6)                                   ' Zeit UTC
   s11 = left(arr(2) , 2) + ":" + mid(arr(2) , 3 , 2) + ":" + mid(arr(2) , 5 , 2)
   lcd s11 ; "    Sats: " ; arr(8);

   if arr(7) = "1" then                                        ' valide Daten?
      locate 2 , 1
      s11 = arr(3)                                             ' Breitengrad
      while len(s11) < 10
         arr(3) = " " + s11                                    ' "s11 = " " + s11" geht nicht !!
         s11 = arr(3)
      wend
      s11 = left(arr(3) , 3) + " " + right(arr(3) , 7)         ' Grad von Minuten separieren
      arr(3) = s11
      lcd arr(4) ; " " ; arr(3) ; " " ; arr(10) ; " ";

      locate 3 , 1
      s11 = arr(5)                                             ' Längengrad
      i = 1
      while mid(s11 , i , 1) = "0"                             ' führende Nullen kappen
         mid(s11 , i , 1) = " "
         incr I
      wend
      arr(5) = left(s11 , 3) + " " + right(s11 , 7)
      lcd arr(6) ; " " ; arr(5) ; "  " ; arr(12) ; " ";
   else
      locate 2 , 1
      lcd string(20 , " ");
      locate 3 , 1
      lcd string(20 , " ");
   end IF


'  Format: GPVTG,342.98,T,,M,0.04,N,0.1,K

   do
      i = split(ser_buf(zeile2) , arr(1) , ",")
   loop until i > 8
   i = val(arr(8));                                            ' Geschwindigkeit

   if i > 1 then                                               ' unter 2 Km/h nix ausgeben
      locate 4 , 1

      i = instr(arr(8) , ".")
      i = i - 1
      s11 = mid(arr(8) , 1 , i)                                ' nur ganzzahlige Km/h
      lcd s11 ; " Km/h";

      i = instr(arr(2) , ".")
      i = i - 1
      s11 = mid(arr(2) , 1 , i)                                ' nur ganzzahlige Grade
      lcd "   Kurs: " ; s11 ;  " ";
   else
      locate 4 , 1
      lcd string(20 , " ");
   end IF

   Waitms 500
   Portb.1 = 0                                                 'LED aus
   Waitms 500
Loop

End

'--------------RS232-INT---------------------


DIM UDR_buf As Byte
DIM ser_col As Byte
ser_col = 1                                                    'Index auf ser_buf()
```

```
OnRXD:
   UDR_buf = UDR                                                'Byte aus UART lesen
   Select Case UDR_Buf
   Case 13 :
   Case 10 : Incr ser_col
              If ser_col = 3 Then
                 ser_col = 1
              End If
   Case "$": ser_buf(ser_col) = ""
   Case Else
      If Len(ser_buf(ser_col)) < 82 Then
         ser_buf(ser_col) = ser_buf(ser_col) + Chr(UDR_buf)
      End If
   End SELECT
Return
```