# HOME Protocol overview

```
This program implements the HOME protocol in BASCOM for an universal I/O device
It uses STK200 development kit for testing purpouse.

It's based on XOR CRC as error detection method to give secure data transfer.

-----[ Disclaimer ]-------------------------------------------------
This example is offered on an "AS IS" basis, no warranty expressed or implied.
The programers disclaim liability of any damages associated with the use of the
hardware or software described herein. You use it on your own risk. I'm not able to
provide any free support.

Copyright (c) 1999 Mike Eitel all rights reserved

-----[ Constants ]--------------------------------------------------

Const Sync = &B01010101                          ' Synchronisation byte
Const Telegrambytes = 9                          ' lenght of telegram
Const Myaddress = &H04                           ' Address for this node (1-255)
Const Dataarea = 16               RAM            ' Size of the Databuffer
Const Paramarea = 16              EEPROM         ' Size of the Parameterbuffer

-----[ Declarations ]-----------------------------------------------

Dim Hisaddress As Byte                           ' Byte containing requester adress

Type Telegrams_Type          '  Sync,DAD,SAD,COM,Db1,Db2,Db3,Db4,CRC
    DAD As Byte              ' Destination address = who has to receive the telegram
    SAD As Byte              ' Source address  = who has to receive the telegram
    CMD As Byte              ' Command that should be treated by destination
    Db1 As Byte              ' First databyte
    Db2 As Byte              ' Secind databyte
    Db3 As Byte              ' Third databyte
    Db4 As Byte              ' Fourth databyte
    CRC As Byte              ' CRC value of the telegram
End Type
                       +-----------------+       '  W = 0/1 Read / Write
    CMD                | W C C C A A A A |         CCC  = 0. 7 command categories
                       +-----------------+              = 7 prioritised commands
                                                        = 6
                                                        = 5
                                                        = 4
                                                        = 3
                                                        = 2 EPROM Data Area
                                                        = 1 SRAM Data Area
                                                        = 0
                                                   AAAA = 0..15 Pointer for values

Dim Datas(dataarea) As Sram Byte                 ' Place to keep the dynamic datas
Dim Parameters(paramarea) As Eram Byte  AT xxx   ' Place to keep the dynamic datas

Dim Motorstatus As Byte                          ' Motor commands flag register
Dim Taskticker As Byte                           ' Byte for timeconstant threads
Dim Taskswitcher_serial As Byte                  ' Taskswitcher for serial control
                                                 ' 0 = No start sign recognized
                                                 ' 1 = Telegram start
                                                 ' 2 = Address check start
                                                 ' 3 = CRC check start
                                                 ' 4 = Command detection start
Dim Taskswitcher_ios As Byte                     ' Taskswitcher for input signals
Dim Taskswitcher_speed As Byte                   ' Taskswitcher for speed control
Dim Taskswitcher As Byte                         ' Taskswitcher status LED's
```