Chapter 7: EVC++ Program Running In WinPAC Access To ISaGRAF Variables

User can write his EVC++ 4.0 application to access to the ISaGRAF variables running at the same WinPAC-8xx7 by using the below functions for Read/Write boolean, word, long and float value.

The include file and library at design time are "WinConAgent.h" and "Quicker.lib". (WinPAC-8xx7 CD-ROM: \napdos\isagraf\wp-8xx7\evc++_lib\ ). The DLL at run time is the "Quicker.dll" which is in WinPAC-8xx7 's \System_Disk\isagraf\ (Please copy the excution file after successfully compilation to the WinPAC 's \System_Disk\isagraf\ and then run it.)

Set boolean value:
unsigned char UserSetCoil(unsigned short iUserAddress, unsigned char iStatus);

  iUserAddress:1 to 8191 (Variable's network address in ISaGRAF project)
  iStatus: 0: set boolean to False, 1: set boolean to True
  for ex.   UserSetCoil(100 , 1) // set boolean at network addr 100 as True

Set word or float or long value:

unsigned char UserSetReg(unsigned short iUserAddress, long *iStatus,
        unsigned char iDType);

  iUserAddress:1 to 8191 (Variable's network address in ISaGRAF project)
  iStatus: A pointer to a long type, which stores the data to set
  iDType   0: type is word
      1: data type is float
      2: data type is long (use long for Timer value in ISaGRAF, unit is ms)
  for ex.
    float float_val;
    long word_val, long_val;
    long *temp_val;

    // set word_val (-32768 to +32767) to ISaGRAF variable with network address 1
    word_val = -20000 ;
    temp_val = (long *)(&word_val);
    UserSetReg(1 , temp_val, 0);

    // set float_val to ISaGRAF variable with network address 2
    float_val = 1.2345 ;
    temp_val = (long *)(&float_val);
    UserSetReg(2 , temp_val, 1);

    // set long_val to ISaGRAF variable with network address 4
    long_val = 12345678 ;
    temp_val = (long *)(&long_val);
    UserSetReg(4 , temp_val, 2);

Get boolean value:

unsigned char UserGetCoil(unsigned short iUserAddress, unsigned char *iStatus);

      iUserAddress:1 to 8191 (Variable's network address in ISaGRAF project)
      iStatus: 0: boolean is False, 1: boolean is True

      for ex.
            unsigned char bVal;
            UserGetCoil(5 , &bVal) // get boolean value at network addr 5

Get word or float or long value:

unsigned char UserGetReg(unsigned short iUserAddress, long *iStatus,
                            unsigned char iDType);

      iUserAddress:1 to 8191 (Variable's network address in ISaGRAF project)
      iStatus: A pointer to a long type, which stores the data returned
      iDType   0: type is word
                 1: data type is float
                 2: data type is long (use long for Timer value in ISaGRAF, unit is ms)

      for ex.
            float   float_val;
            long   word_val, long_val;
            long   ret_val;

      // get word_val (-32768 to +32767) of ISaGRAF variable with network address 10
            UserGetReg(10, &ret_val, 0);
            if (ret_val>=0 && ret_val<=32767) word_val = ret_val;
            else word_val = ret_val | 0xFFFF0000;

            // get float of ISaGRAF variable with network address 11
            UserGetReg(11, &ret_val, 1) ;
            float_val = *(float *) (&ret_val) ;

            // get long of ISaGRAF variable with network address 13
            UserGetReg(13, &ret_val, 2) ;
            long_val = ret_val ;

Note:
The long integer , timer and float variable's Network Address No. must occupy 2 No. in the ISaGRAF project (Please refer to section 4.2 of "User's Manual of ISaGRAF Embedded Controllers" or in the WinPAC-8xx7 CD-ROM:
\napdos\isagraf\wp-8xx7\english_manu\" User_Manual_I_8xx7.pdf")