

## *ServoCenter3.1 Direct Serial I/O Examples - QBASIC*

### 1. Overview

This document provides a simple QBASIC example program illustrating how to access the serial port and directly communicate with the ServoCenter 3.1 controller board to control a servo. Note that the program is provided to illustrate simple raw serial communication using the ServoCenter 3.1 protocol and does not demonstrate the full feature set of the ServoCenter 3.1 controller. Refer to section 4.1 of the ServoCenter 3.1 manual for a description of the entire ServoCenter 3.1 protocol and feature set.

### 2. Sample Code

```

DECLARE SUB initCOMPort (port AS INTEGER,baud as INTEGER)
DECLARE SUB MoveServoRaw (BoardNum AS INTEGER, ServoNum AS INTEGER, _
    Position AS INTEGER, Speed AS INTEGER)
*****
'* This demo program illustrates how to move servo motors *
'* using raw serial communication access to the *
'* Yost Engineering, Inc. ServoCenter 3.1 controller board. *
'* *
'* (c) 2001-2004 Yost Engineering, Inc. *
'* www.YostEngineering.com *
'* *
*****

DIM svBoardnum AS INTEGER
DIM svServonum AS INTEGER
DIM svPosition AS INTEGER
DIM svSpeed AS INTEGER

CLS
COLOR 15, 1
PRINT " " "
PRINT " ServoCenter 3.1 Demonstration Program "
PRINT " (c)2000-2004 Yost Engineering, Inc. "
PRINT " www.YostEngineering.com "
PRINT " "

COLOR 7, 0

PRINT ""
'initialize the serial port com1 to 9600
CALL initCOMPort(1,9600)

DO WHILE 1 = 1
    INPUT " Enter a board number (0-15): ", svBoardnum
    INPUT " Enter a servo number (0-15): ", svServonum
    INPUT " Enter a position value (0-200): ", svPosition
    INPUT " Enter a seek speed value (1-100): ", svSpeed

```

```

    COLOR 4, 0
    PRINT "      Sending Servo Command now...      "
    CALL MoveServoRaw(svBoardnum, svServonum, svPosition, _
        svSpeed)
    COLOR 2, 0
    PRINT "      Done!": PRINT
    COLOR 7, 0
LOOP

SUB initCOMPort (port AS INTEGER, baud as INTEGER)
    settings$ = "COM"+LTRIM$(STR$(port))+": "+LTRIM$(STR$(baud))+_
        ",N,8,1,CD0,CS0,DS0"
    OPEN settings$ FOR RANDOM AS #1
END SUB

SUB MoveServoRaw (BoardNum AS INTEGER, ServoNum AS INTEGER, _
    Position AS INTEGER, Speed AS INTEGER)
    PRINT #1, CHR$( &HF0 + BoardNum MOD 16); CHR$(16);
    PRINT #1, CHR$(ServoNum MOD 16);
    PRINT #1, CHR$(Position MOD 201); CHR$(Speed MOD 101);
    PRINT #1, CHR$(0);
END SUB

```

### 3. Additional Information

This code is available in the QBSC31.bas file in the Examples directory of the ServoCenter3.1 CD or online at [www.YostEngineering.com/ServoCenter](http://www.YostEngineering.com/ServoCenter).