

## Appendix K

### KS5.KS5Console.exe Screenshot

The screenshot displays the KS5Console application window, which is used for controlling a 3D printer. The interface is organized into several sections:

- Controller X:** Includes buttons for Home, Coil ON, and Coil OFF. A Step button is followed by a checked "Auto Coil OFF" checkbox. The Steps field is set to 1850, Direction is set to Away, and Acceleration is 23. A Speed section has input fields for 100 and 25.
- Controller Y:** Similar to Controller X, with Home, Coil ON, and Coil OFF buttons. The Step button is followed by a checked "Auto Coil OFF" checkbox. The Steps field is set to 1850, Direction is set to Home, and Acceleration is 23. A Speed section has input fields for 100 and 25. Below this are buttons for LED ON, LED OFF, Power ON, and Power OFF.
- Controller Z:** Includes Home, Coil ON, and Coil OFF buttons. The Step button is followed by a checked "Auto Coil OFF" checkbox. The Steps field is set to 1500, Direction is set to Away, and Acceleration is 0. A Speed section has input fields for 100 and 23. Below this are buttons for EM ON, EM OFF, Laser ON, Laser OFF, Step LDR, LDR NR, Piece (set to Present), and LDR Steps (set to 450).
- Status and Data:** On the right side, there are dropdown menus for Controller X State, Controller Y State, and Controller Z State, all set to Online. Below these is a Main Power dropdown set to Online and an Update button. At the bottom right is a Board Data button. A large text area displays a log of data, showing a sequence of 11s and 00s.

**Controller X**

Home Coil ON Coil OFF

Step ☒ Auto Coil OFF

Steps: 1850

Direction: Away

Acceleration: 23

Speed: 100 25

**Controller Y**

Home Coil ON Coil OFF

Step ☒ Auto Coil OFF

Steps: 1850

Direction: Home

Acceleration: 23

Speed: 100 25

LED ON LED OFF Power ON Power OFF

**Controller Z**

Home Coil ON Coil OFF

Step ☒ Auto Coil OFF

Steps: 1500

Direction: Away

Acceleration: 0

Speed: 100 23

EM ON EM OFF

Laser ON Laser OFF

Step LDR LDR NR

Piece: Present

LDR Steps: 450

Controller X State: Online

Controller Y State: Online

Controller Z State: Online

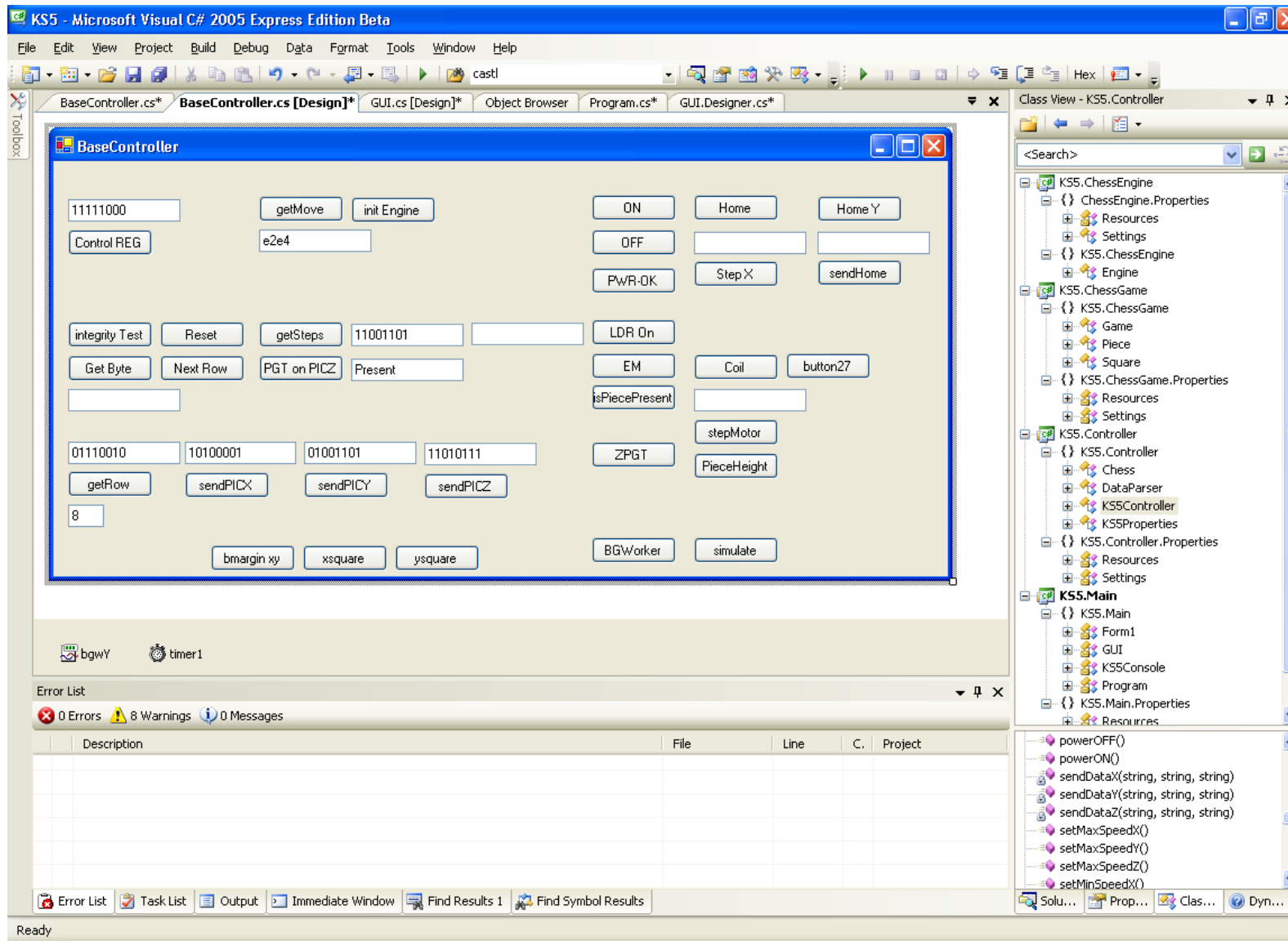
Main Power: Online

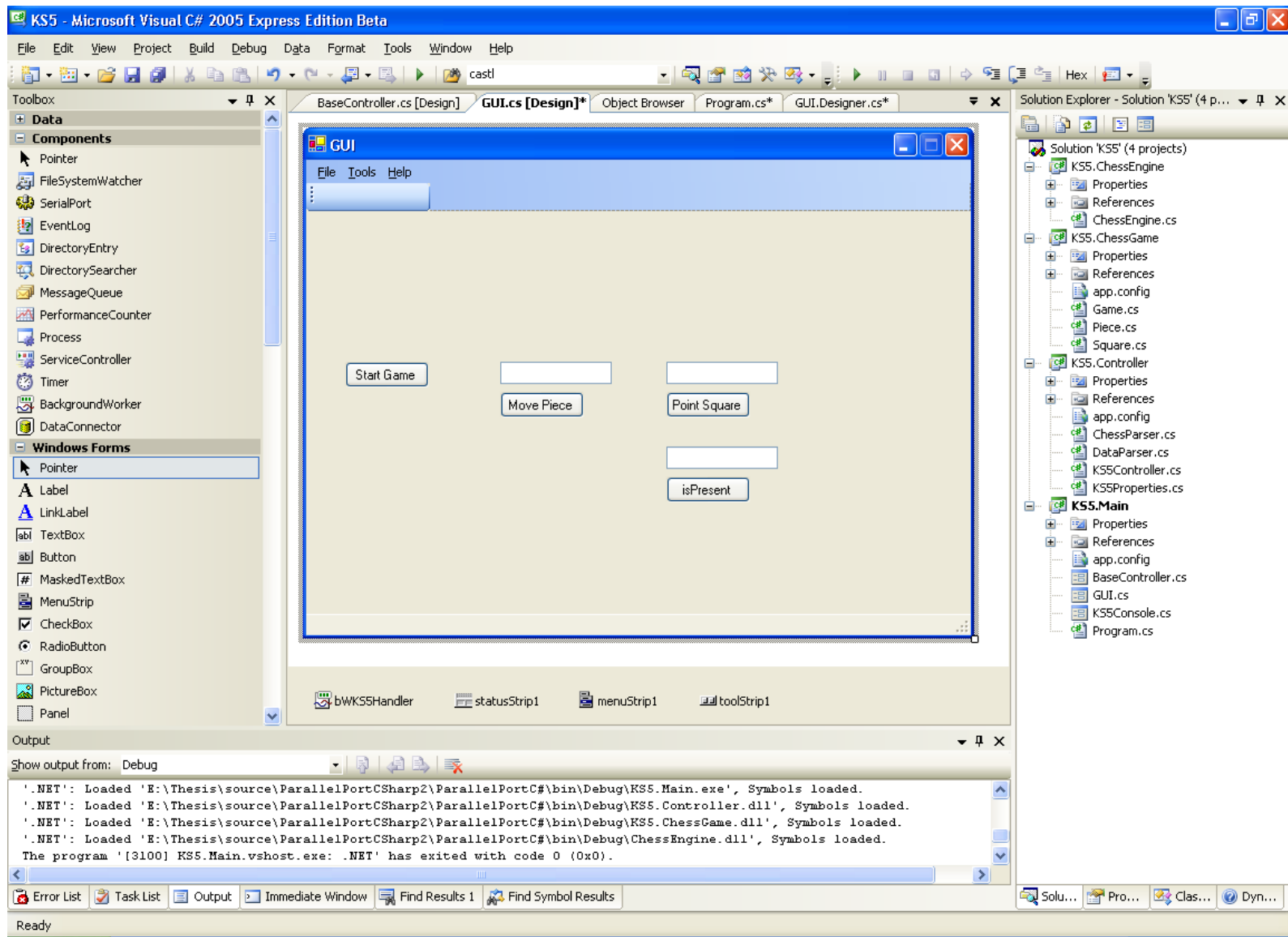
Update

Board Data

11111111  
11111111  
00000000  
00000000  
00000000  
00000000  
11111111  
11111111  
  
00000000  
00000000  
  
00000000  
00000000

# Appendix L KS5.BaseController.exe Screenshot





**Appendix M**  
KS5.GUI.exe Screenshot