Glow Worm cxi, hxi & sxi PCB - Components

C802 = 47uF 400V
C805 = 47uF 63V
C813 = 100uF 35V
C809 & C810 = 470uF 35V. Suggest 63V!
C708, 812, 816, 817, 823 = 10uF 63V

T705 = C33725 / BC337
T706 = BSN254A / BS107A

User Interface uP = PIC16C72A-04

D100 = 1N4007
Z100 = ?
U102 = 4N35
U500 = L78L05
U503 = LM317?
U800 = L7818CV
U801 = TOP247YN
T100 = KSP44-028 or MPSA44
Z800 = BZX55C 7V5
uP = M38039FFLKP
HMI uP = PIC16C72A-04

USER INTERFACE PCB
1 = Brown = Ignition 1
2 = Blue = Sense 4
3 = Black = Ground 2
4 =
5 =
6 =

Switch Settings (not sure about this)

Pump Operation	On Off	Heating Temp & Pump?
	4 x	On On Off Off
	3 x	On Off On Off
On Off On Off	2 x	53c		
On On Off Off	1 x	87c		
| | | With Heat Demand		53c |
| | Continuous		73c
| With Burner Continuous		

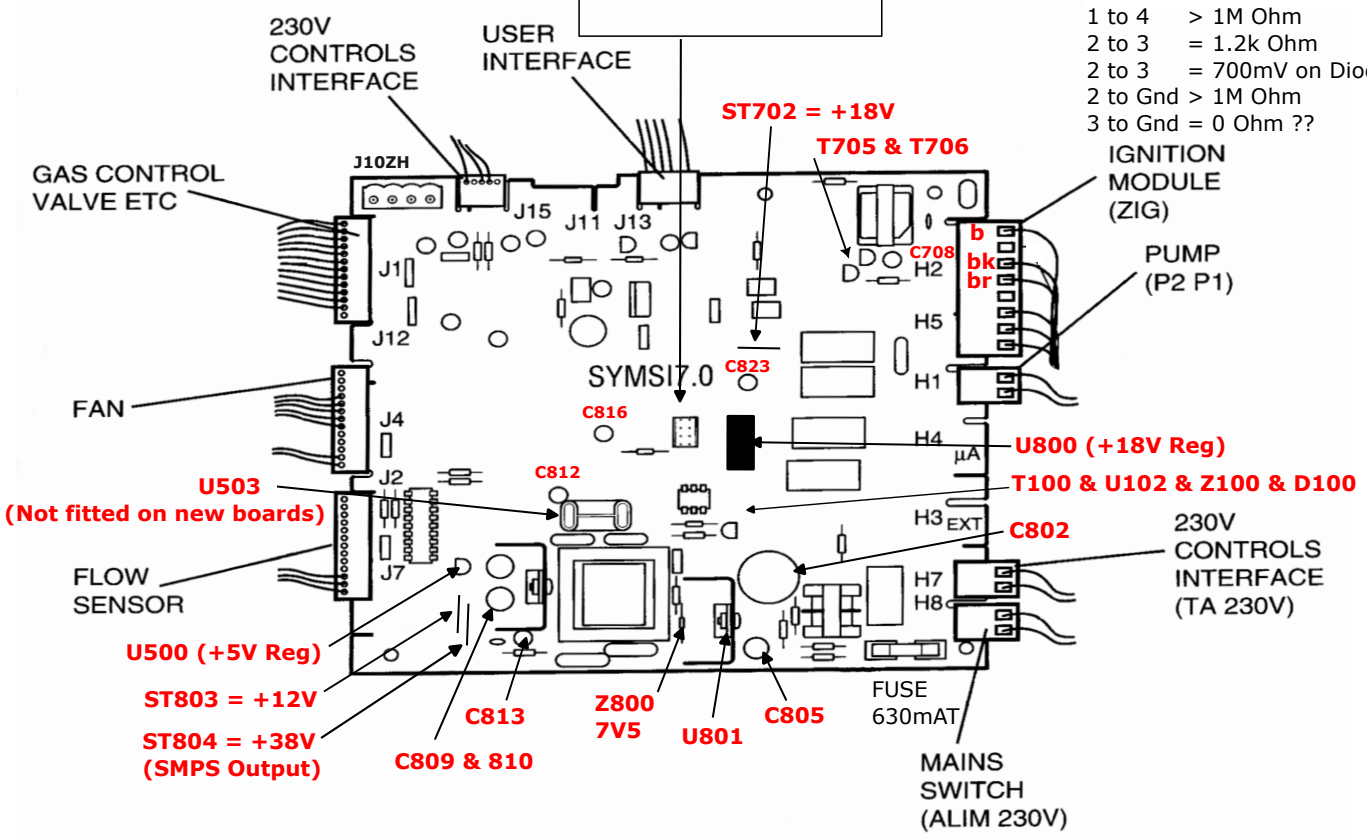
x = Factory Position (all off)

J3ZI Test Pins

uP Pin	OLD	NEW	uP Pin
+5V	· · · ·	Busy	12
RxD	· · · ·	Clock	13
?	· · · ·	Data	
Reset	· · · ·	0V, Grd	0V
?	· ·	Data	14

IGNITION MODULE (ZIG) — PCB Connection
1 = Brown = Ignition 1
2 = Blue = Sense 4
3 = Black = Ground 2

1 to Grd > 1M Ohm
1 to 2 > 1M Ohm
1 to 4 > 1M Ohm
2 to 3 = 1.2k Ohm
2 to 3 = 700mV on Diode Test
2 to Gnd > 1M Ohm
3 to Gnd = 0 Ohm ??



NOTES
The main DC voltage from the SMPS is around 40V. Interesting that the smoothing capacitors C809 & C810 are 35V working!! Perhaps use 50V or 63V replacement caps here.

The 12V and 38V supplies are from separate secondary windings. +5V is derived from the 12V rail. They all share the common Gnd.

As C809 & C810 capacitors work the hardest they should be replaced as a matter of course (with 50V or 63V working 105deg). C802 is an HV capacitor and should be replaced. C813 is for the 12V rail and again should be replaced as it is next to the heatsink. As should C805. All with 105deg spec parts.

br = Brown g/y = Green/Yellow
b = Blue p = Pink gn = Green
bk = Black g = Gray y = Yellow
w = White r = Red or = Orange

F1 Ignition Fault (Boiler failed to light)
F4 Ignition Fault (Boiler went out when lit)
F5 Overheat Fault
F6 Central Heating Flow Thermistor Fault
F10 Central Heating Return Thermistor Fault
F11 Main Board Connection Fault
F12 User Interface Connection Fault
F13 Main PCB Fault
F14 Central Heating Flow Temp Too High
F16 Gas Valve Fault
F17 Power Supply Less Than 170V
F18 User Interface Fault
F19 CH Thermistor Unplugged
F20 Software Incompatibility
F24 CH Return Temp Too High
F25 Max Temp Rise Slope to High
F26 Max Delta Temp Too Low