

OBD/ECU Kit Documentation

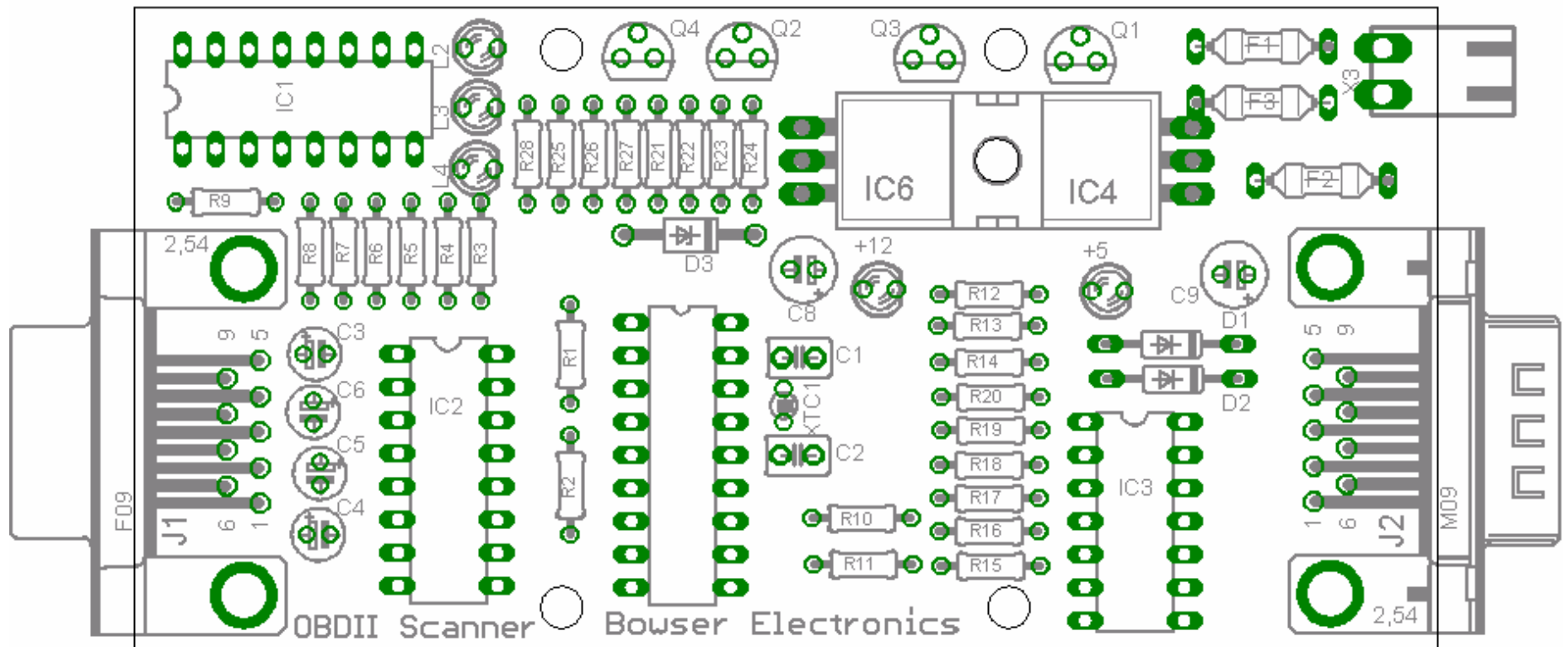
OBD Scan Tool / ECU Simulator Assembly Instructions

- 1 Install all Resistors.
- 2 Install fuses
Fuse F1 only required for ECU simulator.
- 3 Install all Diodes
- 4 Install all LEDs
- 5 Install all Transistors
- 6 Install all capacitors.
- 7 Install all Integrated Circuits and Dip Socket. DO NOT Install PIC16F648A at this time!!!.
- 8 Install DB Connectors.
- 9 Perform electrical test (Input, +5V, +8V, -8V and VPW supplies)
Power up board using vehicle or external 11-15 VDC power supply.
Ensure LED L2, L1 and L5 illuminate.
Verify input voltage at F2. (Should be 12-14 VDC.)
Verify 5V regulator at 4.9-5.1VDC.
Verify +8V supply at IC2 pin 2.
Verify -8V supply at IC2 pin 6.
Verify VPW supply at D3 anode. (Input voltage -5)
- 10 Install PIC16F648A in dip socket.
- 11 Power up test w/ vehicle.

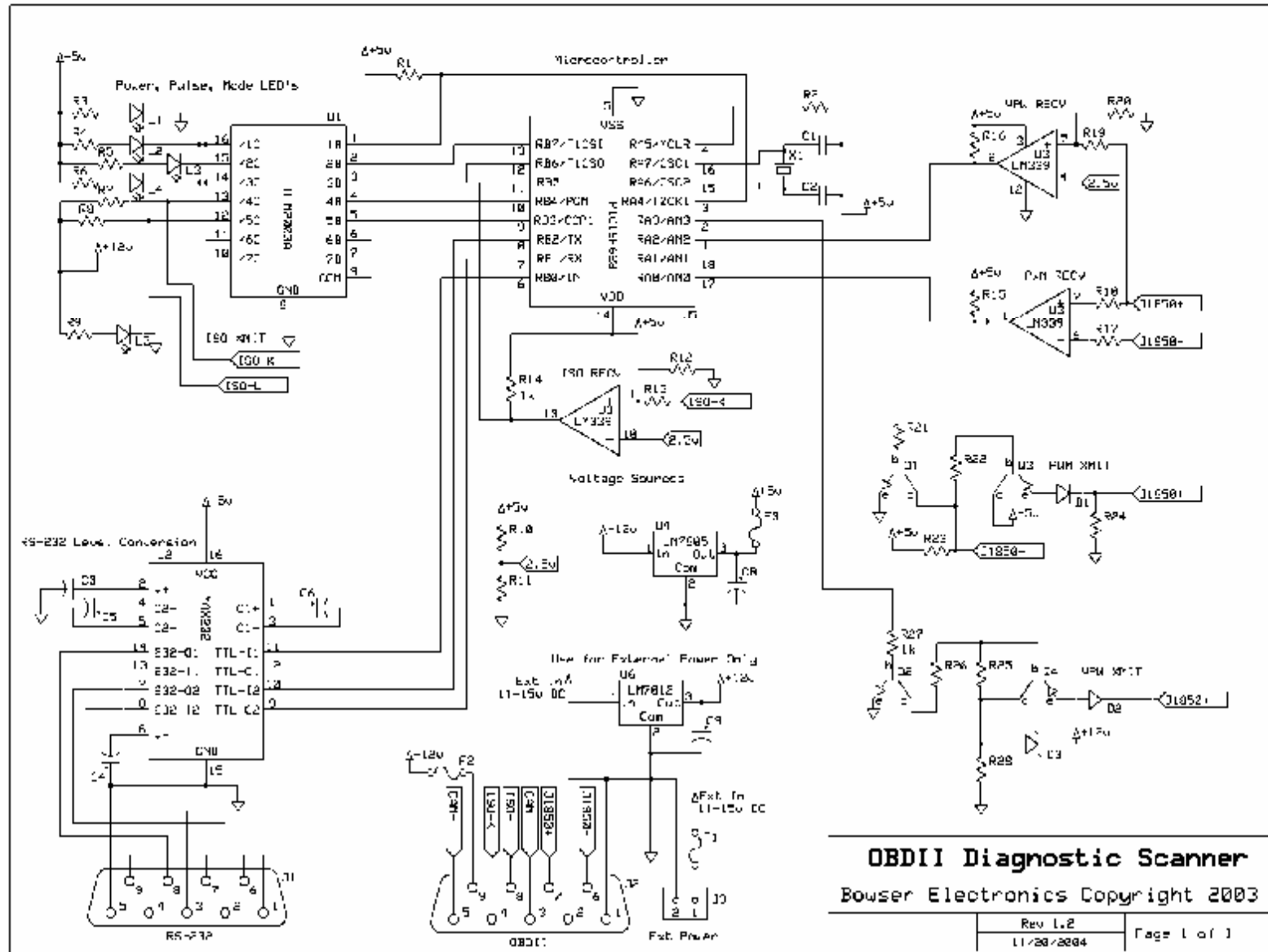
NOTE: For ECU Simulator - Fuses supplied are 250mA. Install fuses compatible with the current capability of the power supply as well as the requirements of the scan tool to be connected.

NOTE: The OBD-II Diagnostic Scanner Kit derives power from the vehicle connector. While the external power supply connection may be used for bench testing, the diagnostic scanner should never be connected to both a vehicle and external power supply at the same time. Damage to both the diagnostic scanner and vehicle may result.

OBD Scan Tool / ECU Simulator Board Layout



OBD Scan Tool / ECU Simulator Schematic



OBD Scan Tool / ECU Simulator Parts List

Part	Value
C1	18pf
C2	18pf
C3	1uf
C4	1uf
C5	1uf
C6	1uf
C8	10uf
C9	10uf
D1	1N4148
D2	1N4148
D3	1N4733A
F1	.250A
F2	.250A
F3	.250A
J1	DB9F

Part	Value
J2	DB9M
L1	LED
L2	LED
L3	LED
L4	LED
L5	LED
Q1	2N3904
Q2	2N3904
Q3	2N3906
Q4	2N3906
R1	1k
R2	10k
R3	1k
R4	1k
R5	1k

Part	Value
R6	1k
R7	500
R8	500
R9	1k
R10	10k
R11	10k
R12	6.2k
R13	10k
R14	1k
R15	1k
R16	1k
R17	10k
R18	10k
R19	10k
R20	22k

Part	Value
R21	1k
R22	1k
R23	2.2k
R24	2.2k
R25	10k
R26	1k
R27	1k
R28	1k
U1	ULN2003A
U2	MAX232
U3	LM339
U4	LM7805
U5	PIC16F648A
U6	LM7812
X1	20MHz

Note: All Resistors ¼ W

R7, 8 = 510Ω w/ OBD-121, 100kΩ w/ ECU-121

R12 = 6.2k w/ OBD-121, 22k w/ ECU-121

R13 = 10k w/ OBD-121, 47k w/ ECU-121

U5 has been replaced with a PIC16F648A