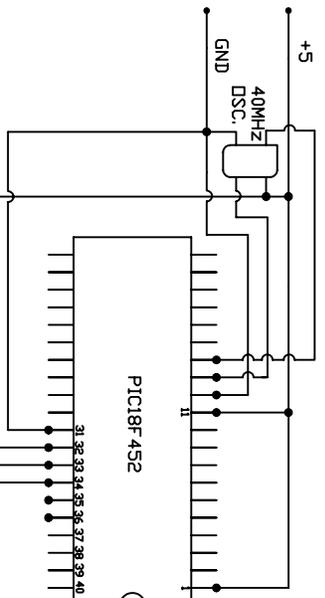
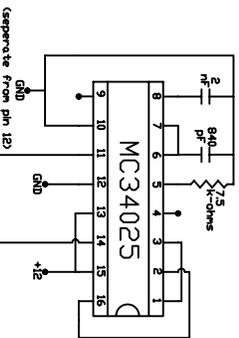
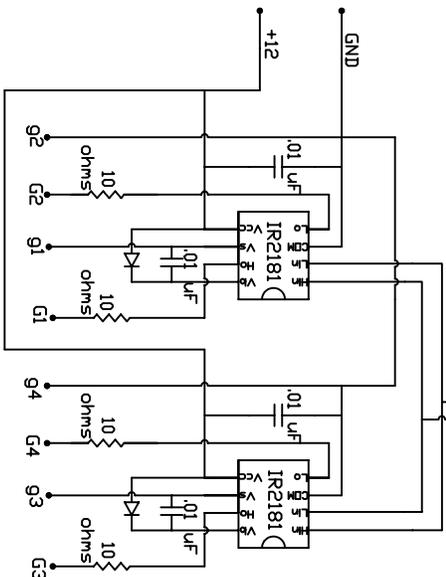


**DC-DC CONTROLLER CIRCUIT:**  
Provides a 100 kHz PWM signal to switch the MOSFET transistors of the half-bridge DC-DC converter.



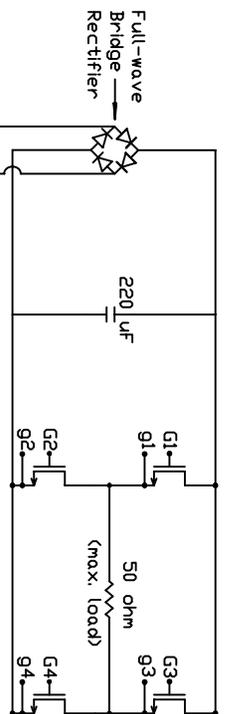
**FULL-BRIDGE INVERTER CONTROLLER:**  
Provides PWM control pulses to switch the full-bridge inverter circuit. The microcontroller is set to produce two complementary PWM signals with 5 volt amplitudes to switch the MOSFETs at 18 kHz to produce a 60 Hz AC output.

**MOSFET DRIVER CIRCUIT:**  
Provides isolation to the high side gate driver pulses and increases the voltage of the signals from 5 V to 12 V.

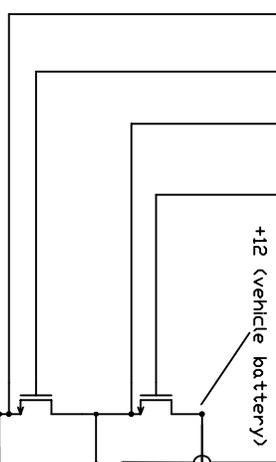


**MOSFET DRIVER CIRCUIT:**  
Provides isolation to the high side gate driver pulses and increases the voltage of the driving pulses.

**SINGLE-PHASE FULL BRIDGE INVERTER:**  
Produces single-phase, 120 VAC, 60 Hz sine wave. (MOSFET IRF740 transistors,  $V_{dss} = 400 \text{ V}$ ,  $I_d = 10 \text{ A}$  at 25 degrees Celsius).



**HALF-BRIDGE DC-DC CONVERTER:**  
Boosts the 12 VDC voltage so it can be rectified to 170 VDC. (IRF740 transistors,  $V_{dss} = 400 \text{ V}$ ,  $I_d = 10 \text{ A}$ )



### Single-Phase Power Inverter

This is a 12 VDC to 120 VAC switch mode power inverter capable of delivering 300 W of continuous power