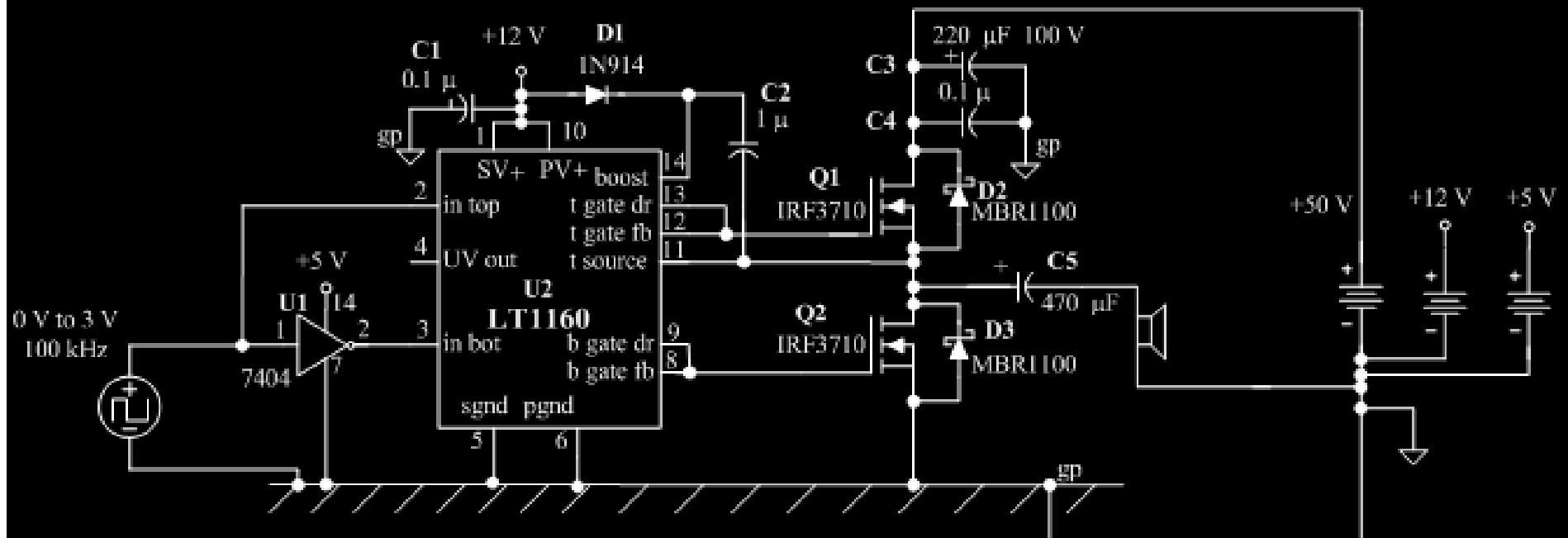


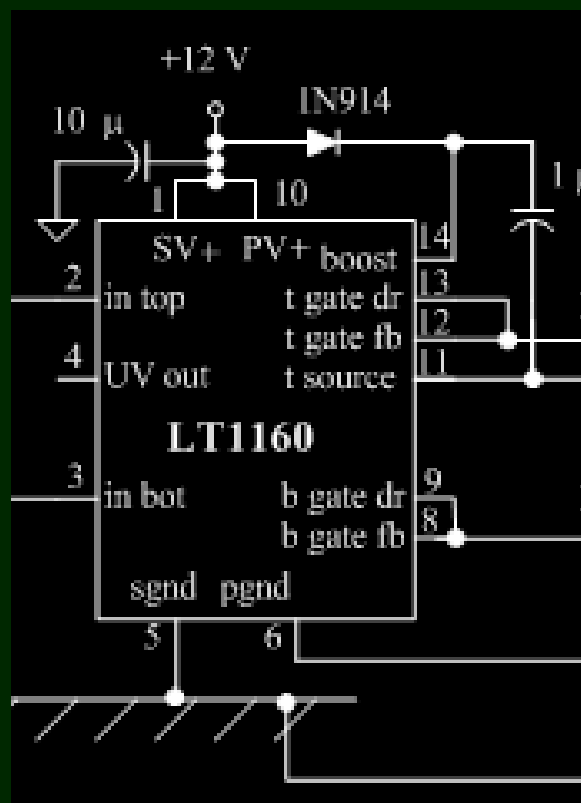
# LT 1160 Switch Driver



LT1160/LT1162  
Half-/Full-Bridge

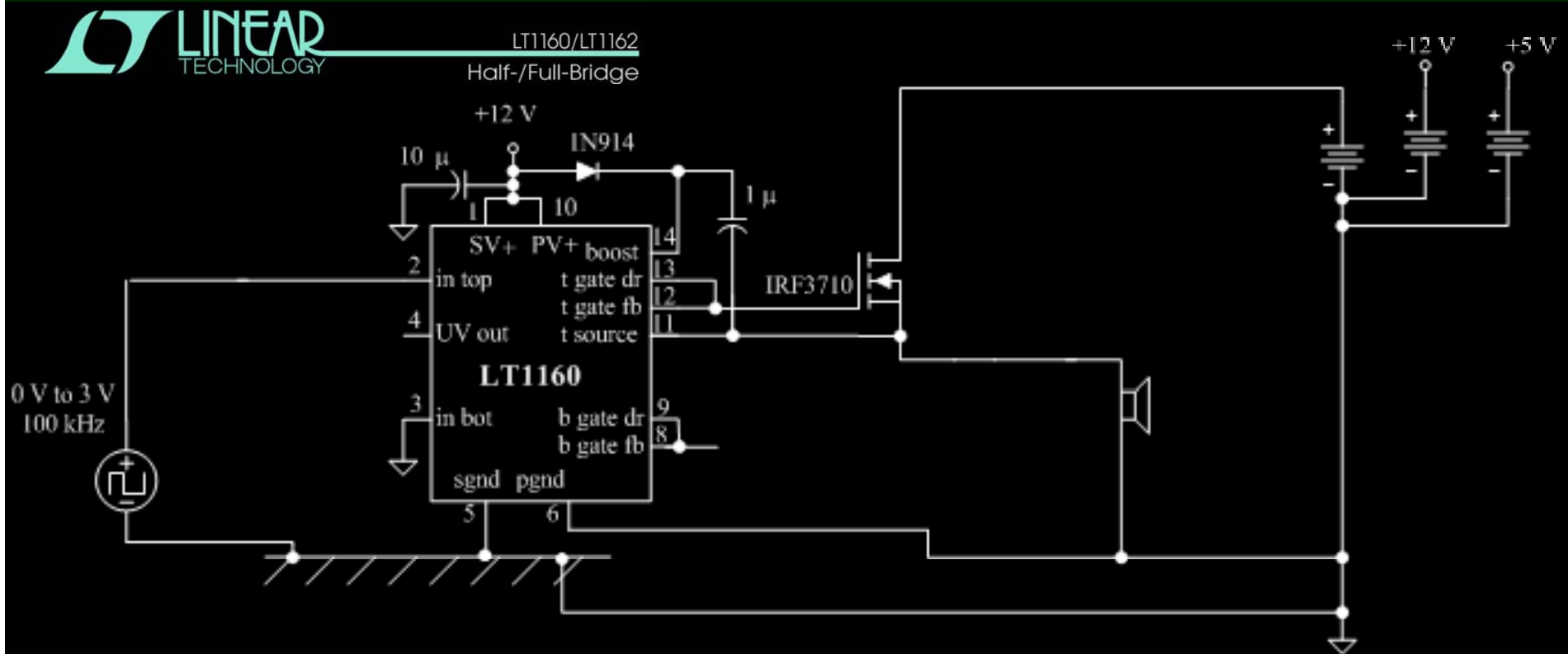


# LT1160 High (& Low) Side Driver

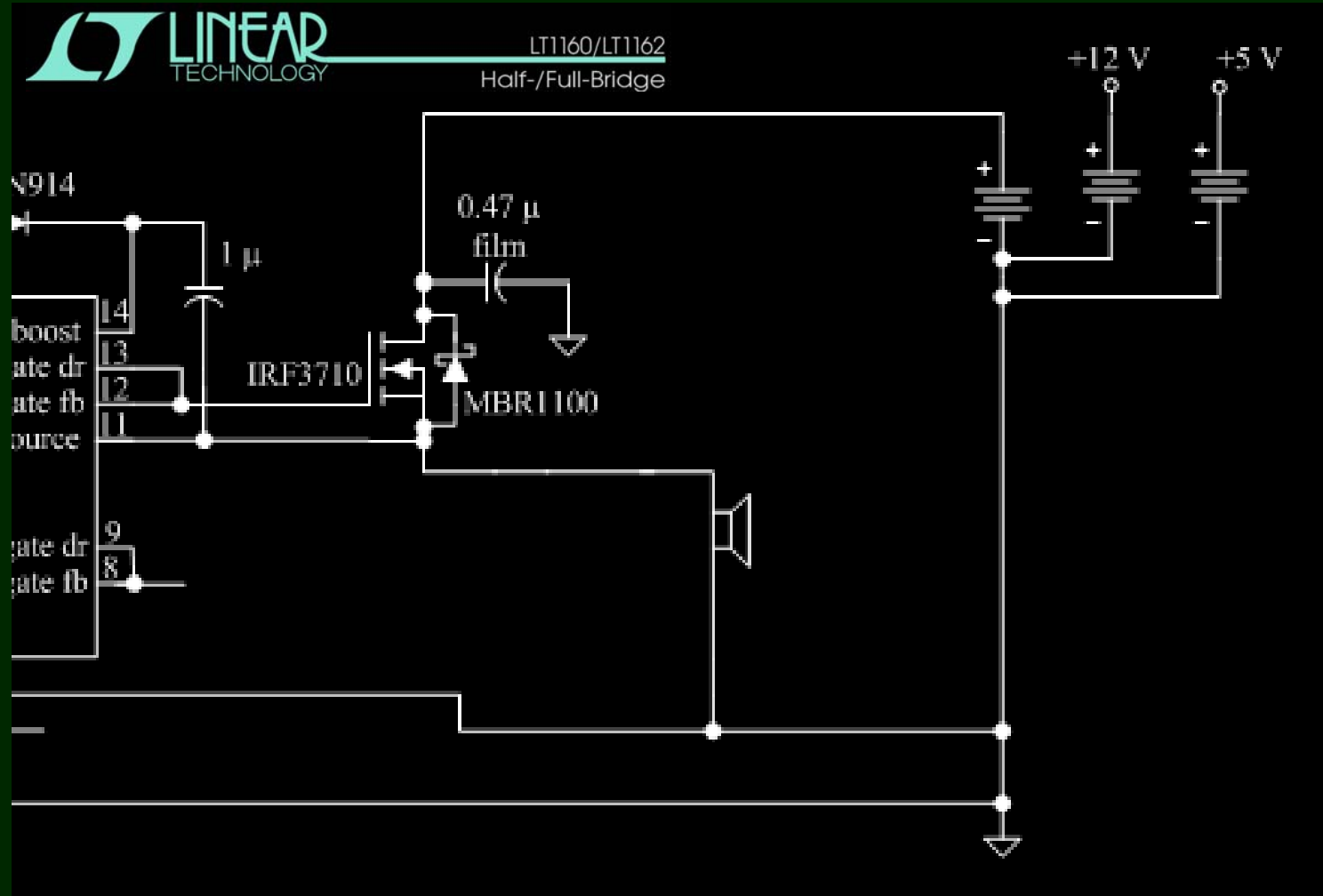


- N channel high side
- $V_{\text{gate}} \sim V_{\text{source}} + 10\text{V}$
- $< 75\text{ V}$
- Drives 3000 pF
  - 140 ns to 600 ns
- $f_{\text{max}} > 100\text{ kHz}$

# LT1160 Bootstrap High-side Drive



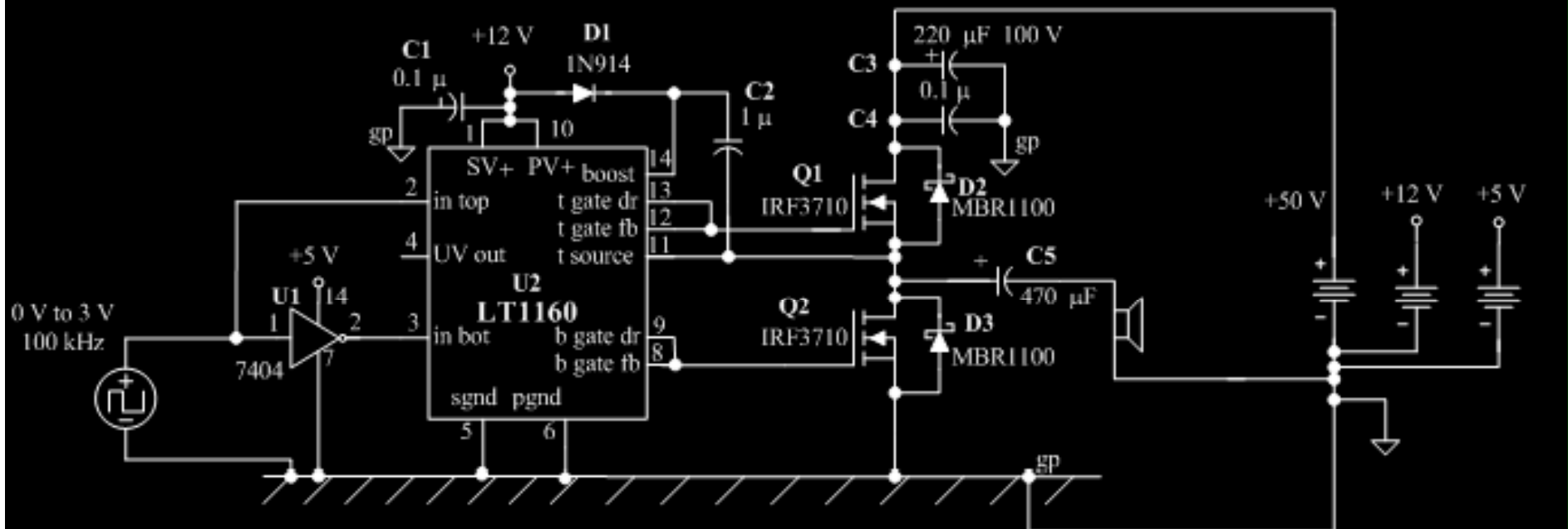
# LT1160 Bootstrap High-side Drive



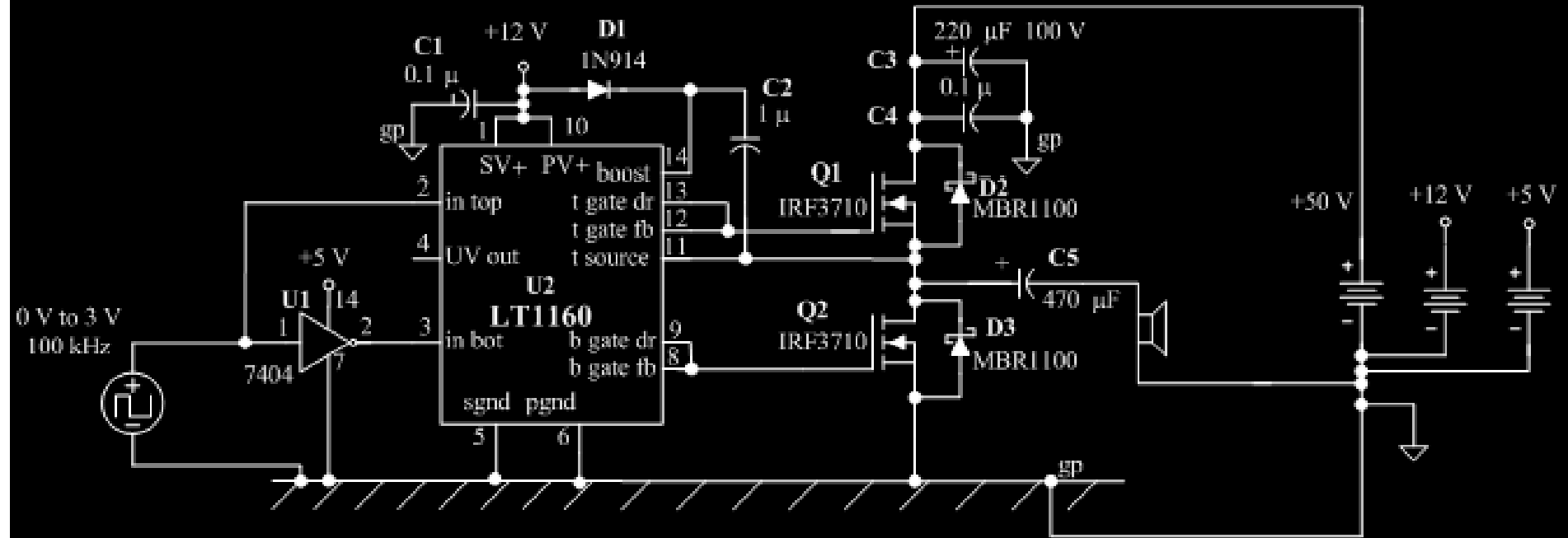
# LT1160 Bootstrap Low-side Drive



LT1160/LT1162  
Half-/Full-Bridge

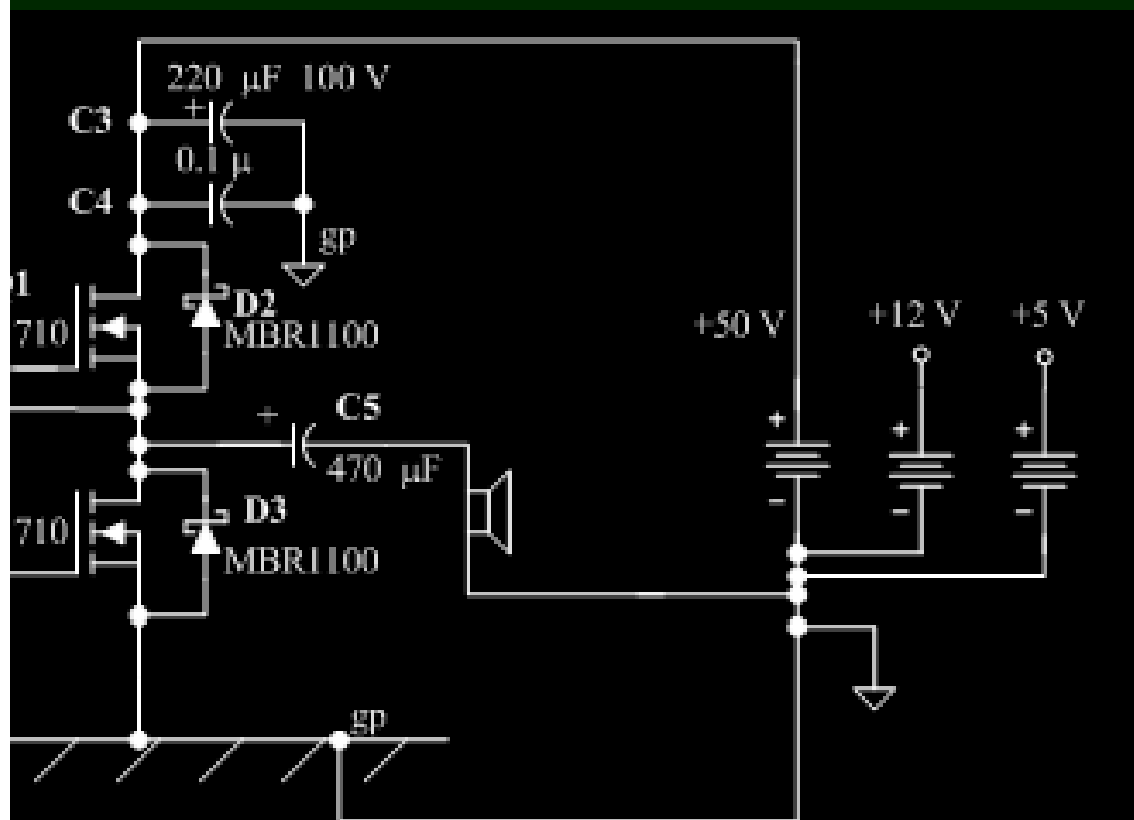


# LT1160 Performance – Truth Table



IN TOP	IN BOTTOM	T GATE DR	B GATE DR
L	L	L	L
L	H	L	H
H	L	H	L
H	H	L	L

# Output Capacitor



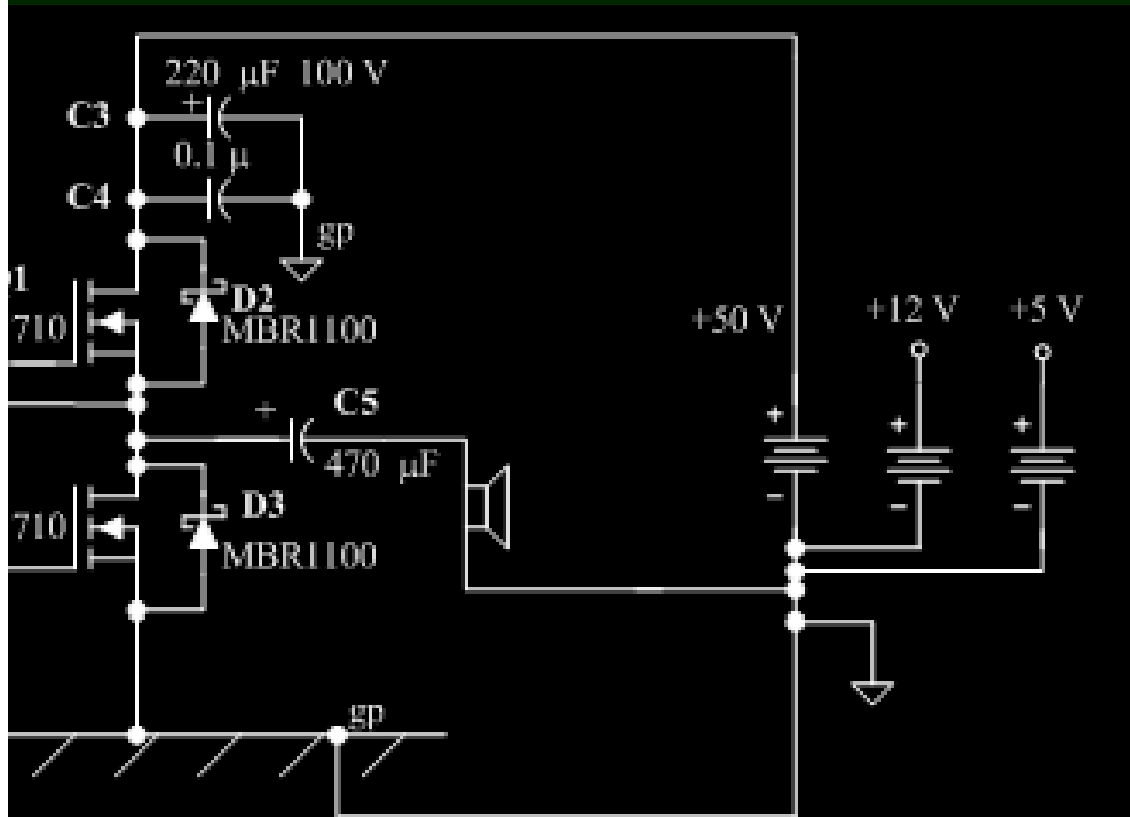
Waveform at  
MOSFETS S-D

High-side *on* => charge

Low-side *on* =>  
discharge

Waveform across load

# Output Capacitor



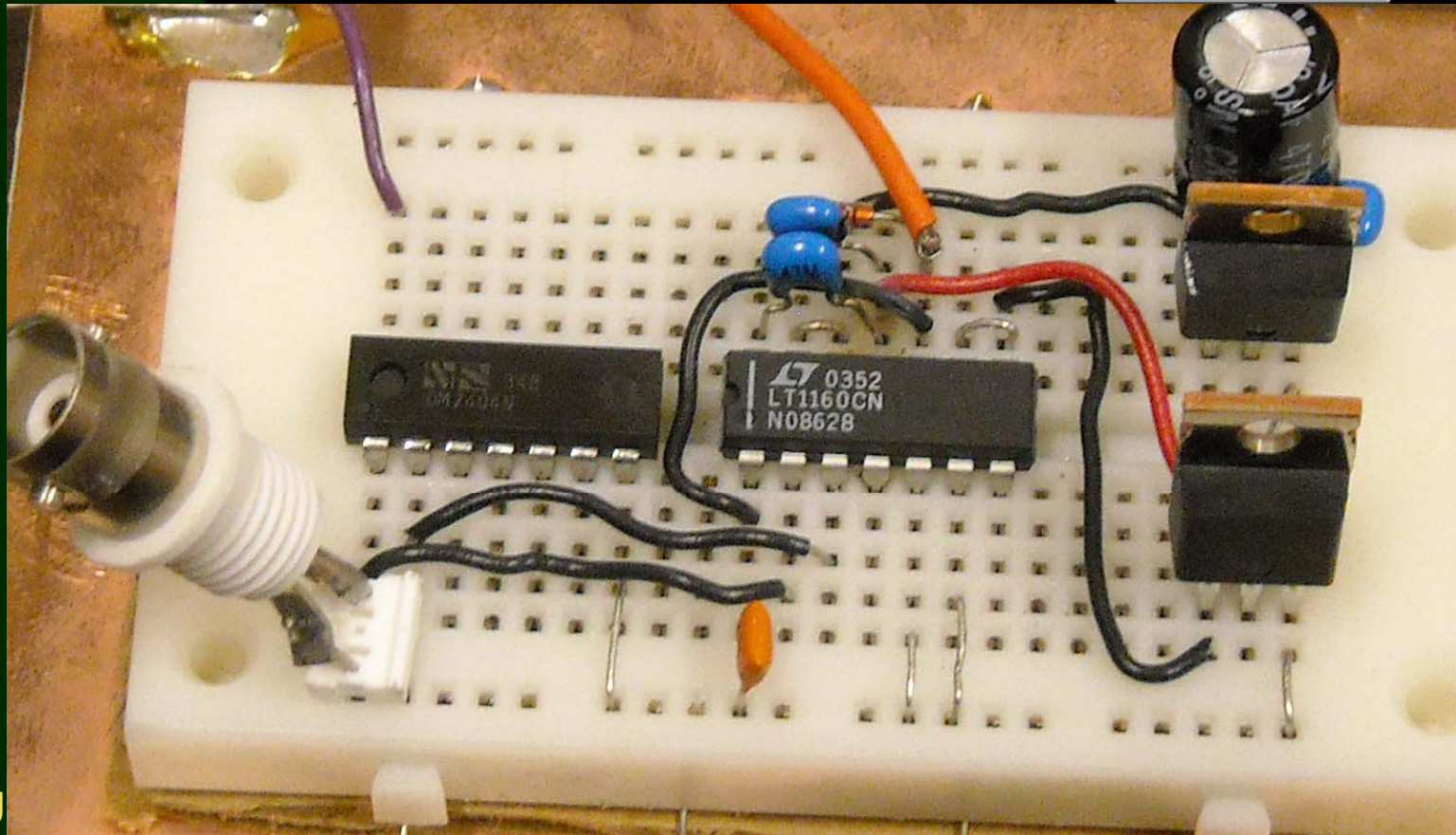
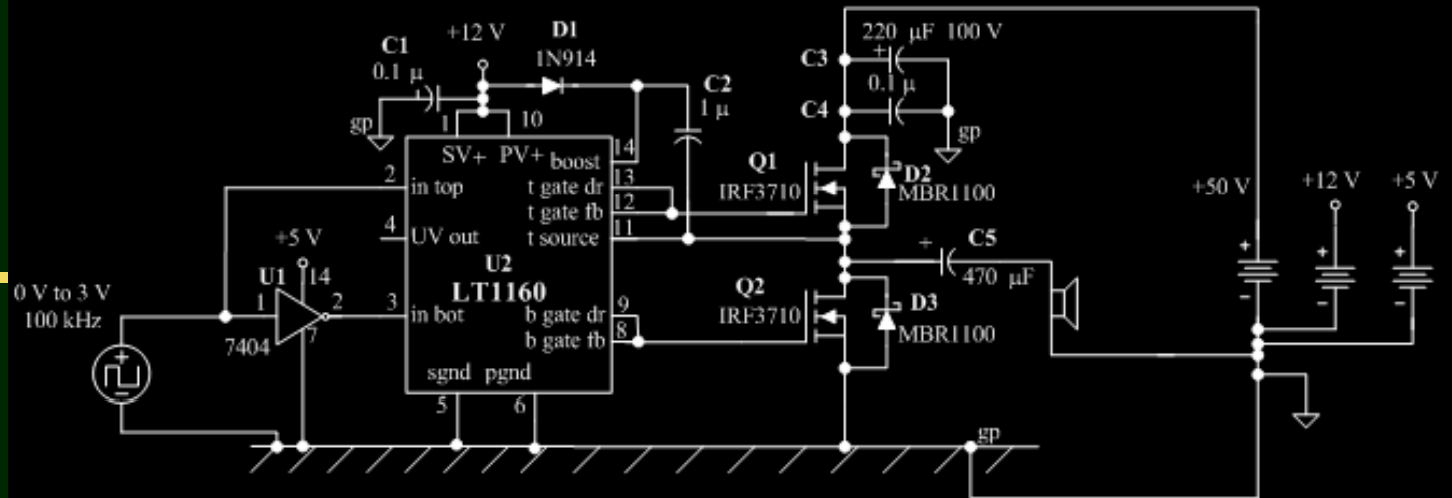
High-pass filter

$$f_{-3\text{dB}} = 1/(2 \pi R_{\text{load}} C)$$

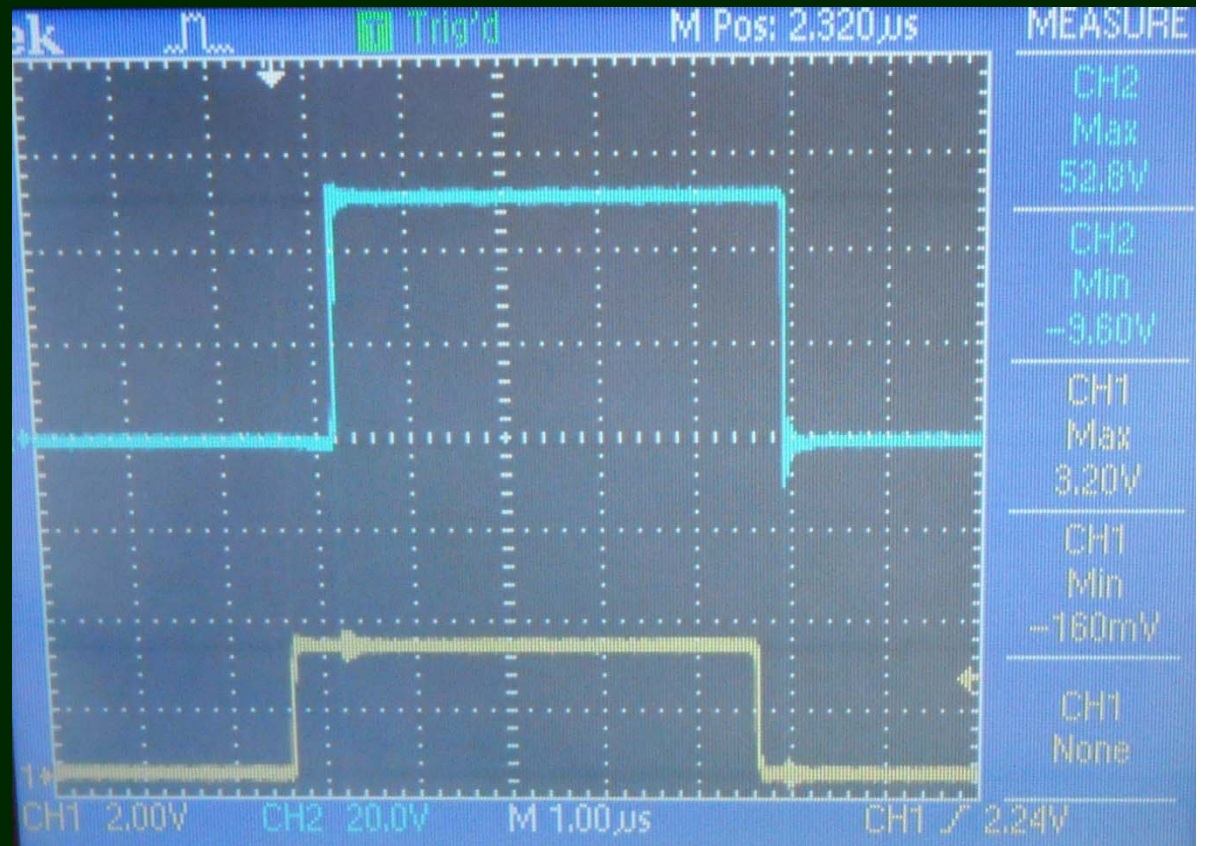
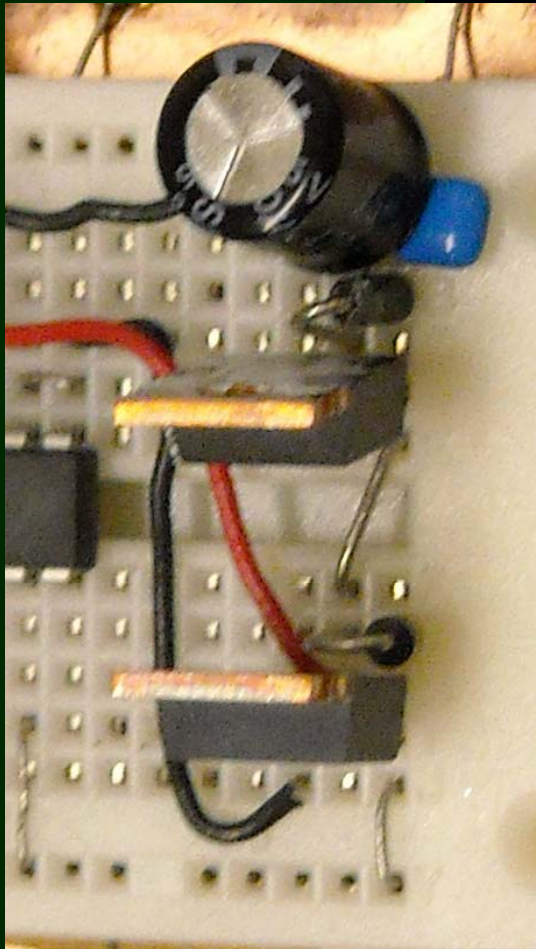
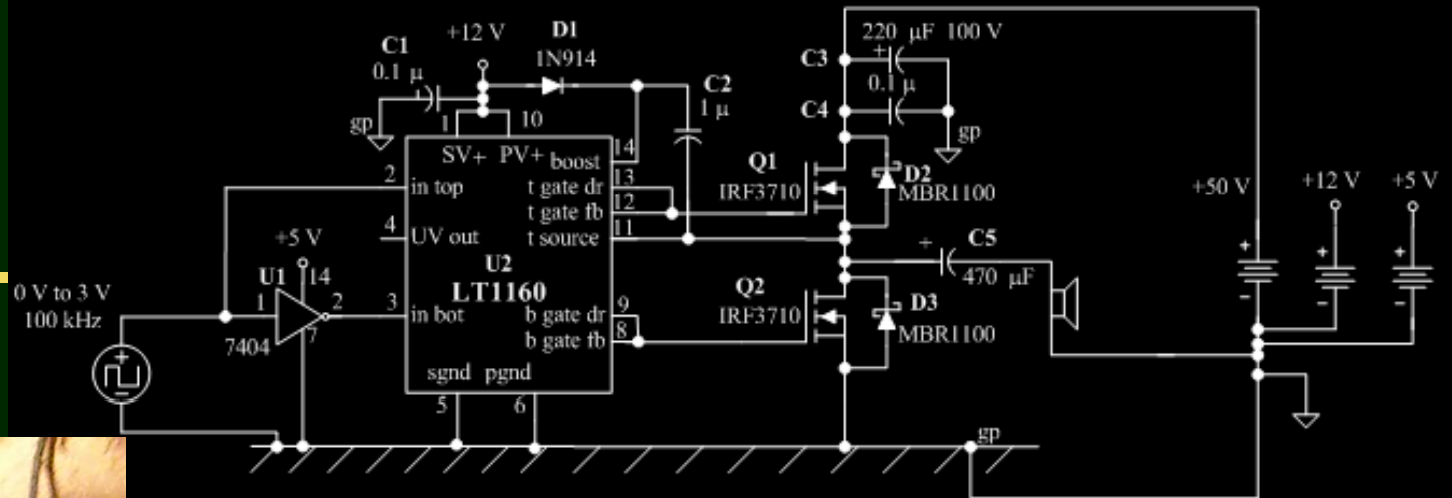
$$C_{\text{coupling}} = ?$$

Voltage rating

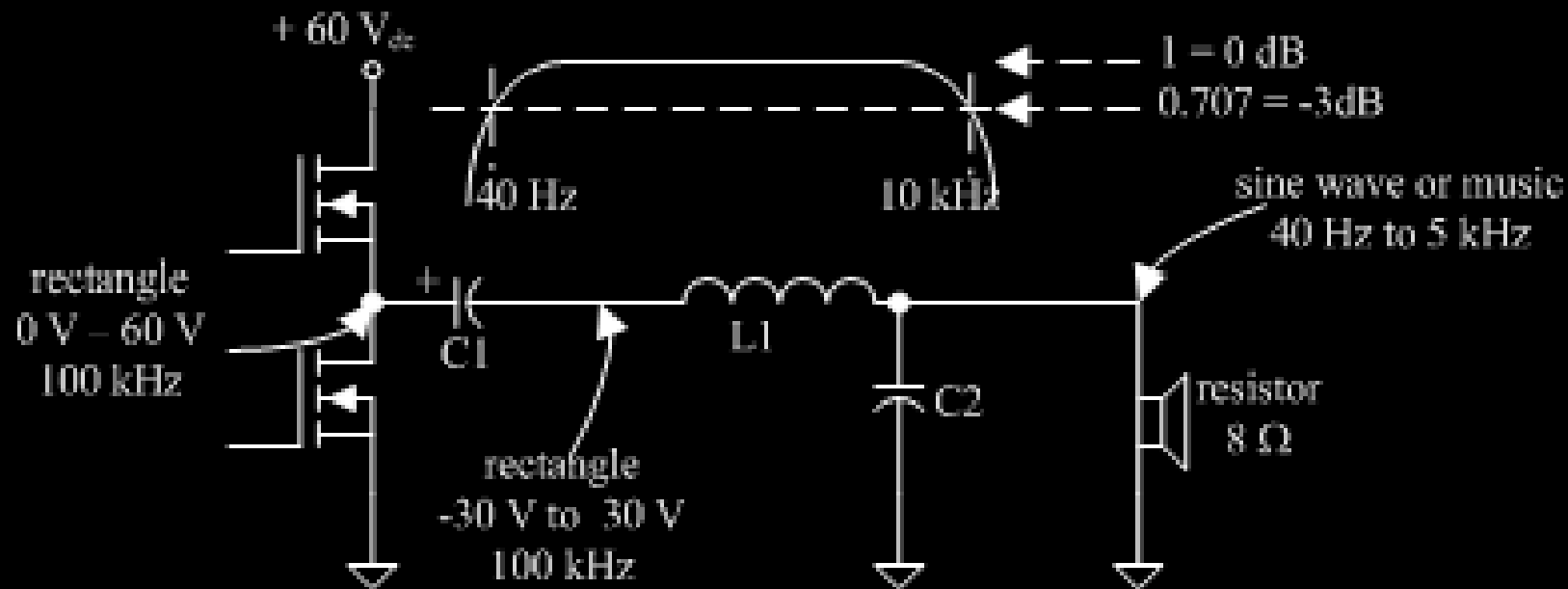
# Layout



# Layout



# Filter Design



LCR second order filter (resonant tank)

$\alpha = 1/Q = 0.7$  (ECET 307  $\Rightarrow$  Butterworth)

$Q = X/R$     $R = 8 \Omega$     $X = ?$     $f = 10 \text{ kHz}$     $L = ?$     $C = ?$

