

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

King Fahd University of Petroleum and Minerals
Department of Electrical Engineering

Semester I 2005/2006 EE455 Analog Communication Electronics Major (2)

ATTEMPT ALL QUESTIONS
TIME ALLOWED 50 Minutes

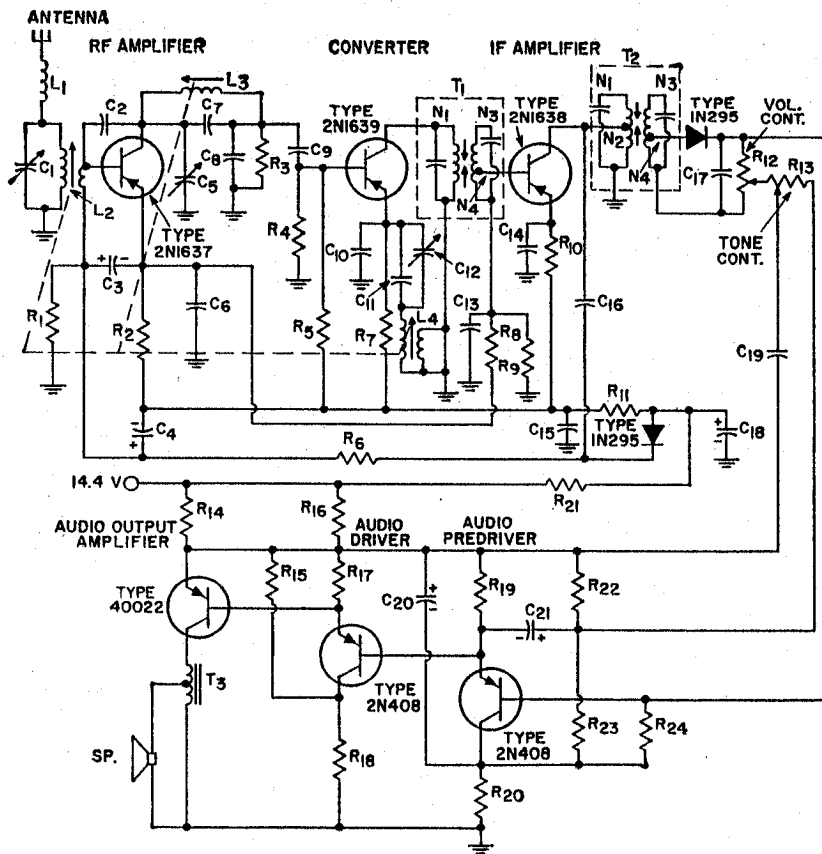
- Q1. Consider the circuit shown in figure and answer the following questions:
- What is the function of the capacitor C_{18} ?
 - What is the function of the variable resistor R_{12} ?
 - What is the function of the inductor L_4 ?
 - In the transformers T_1 and T_2 why tapping is used?
 - What is the function of the capacitor C_{17} ?
 - What is the function of the capacitor C_1 ?
 - What is the function of the coupling between the inductors L_2, L_3 and L_4 ?
 - What is the function of the capacitor C_{13} ?
 - In writing the specifications for the first transistor 2N1637, what should be the cutoff frequency?
 - In your opinion, your modern integrated circuit technology, which parts of this circuit can be integrated?

In all cases try to give the design formula for the value of the component in question.

Make any necessary assumptions.

DO NOT PERFORM ANY CALCULATIONS.

2N1637
C₁
L₂, L₃, L₄
Coupling



T₁ & T₂
R₁₂
C₁₇
C₁₃
L₄
C₁₈