

ECG 720

Advanced Analog

IC Design

Lecture 29

Spring 2016

→ Study H.W. & Quizzes ←

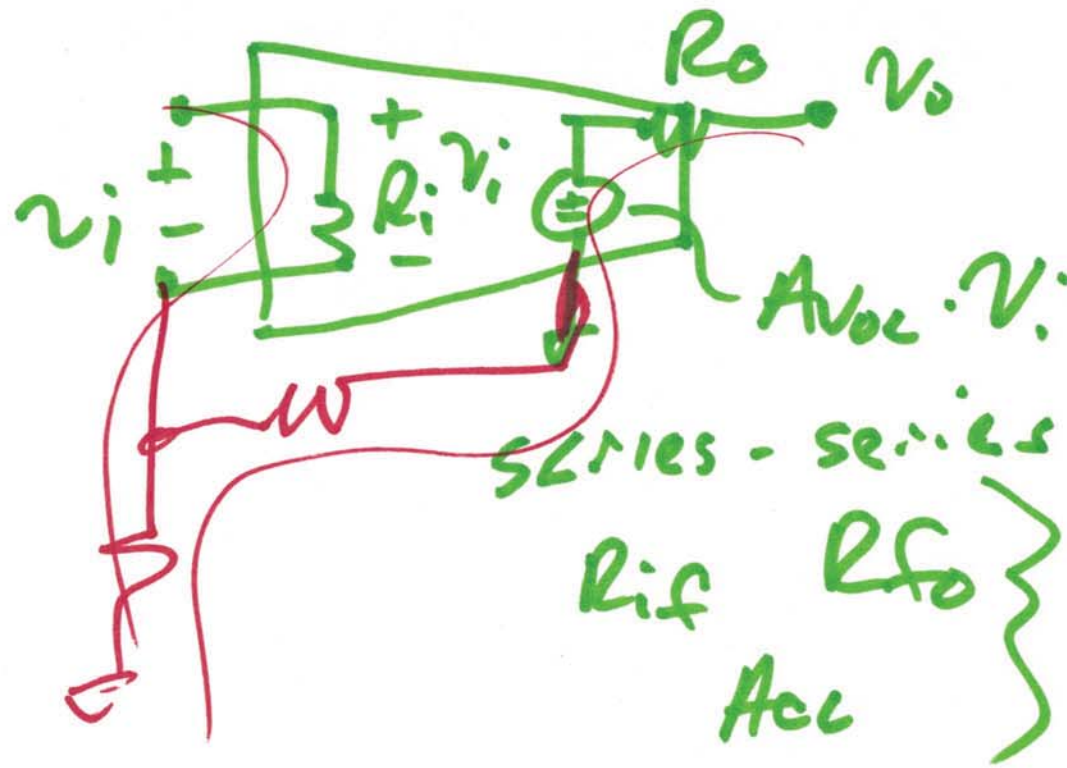
1) ch. 8<sup>(9)</sup> noise → fundamental!

transistor noise questions  
diff-pair, current mirror  
load

input referred noise

transistor CMOSedu.com

2) Ch. 301 → feedback Amps



$$R_{if} = \frac{R_i}{1 + \beta A_{voc}}$$

$$R_{if} = R_i (1 + \beta A_v)$$

### 3) Data Converters

Understand the operation

DNL & INL  $\rightarrow$  matching requirements

4) Building blocks for Data Converters  
S/H OR multiple  $\times 2$   
AND/OR subtraction  
derive operation  $CV = Q$