# Structured Electronic Design

## Negative Feedback Amplifiers
## Ideal Gain and Controller

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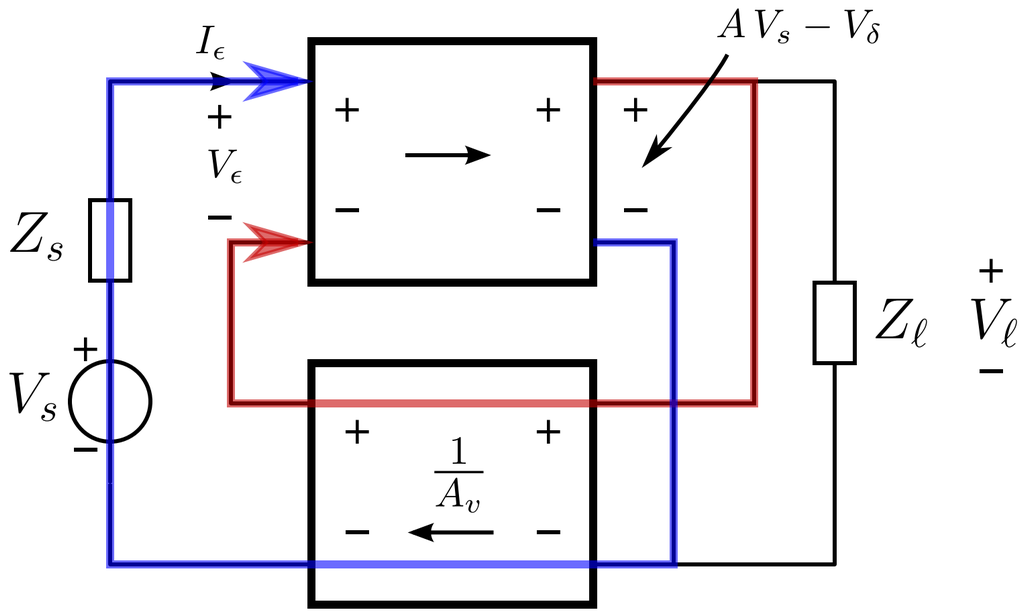
# Negative feedback and ideal gain

1. The ideal gain is the source-to-load transfer in the case of a nullor as controller

2. Practical controllers have a finite gain and bandwidth

   a. Negative (corrective) feedback if transfer from the positive output of the controller to its positive input is inverting:



# Conclusions single-loop feedback configurations

1. All port (isolation) configurations can be realized using nonenergic feedback with natural two-ports (gyrator, transformer)

2. If the feedback network is not a natural two-port:

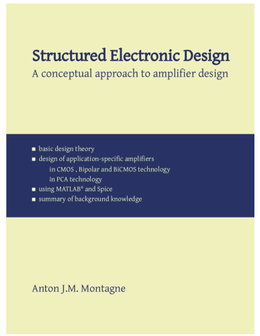
    a. Source and load are electrically connected

    b. Sign of transfer depends on amplifier type

    c. Port isolation and/or sign inversion requires:

        - Active feedback
        - Balanced feedback
        - Indirect feedback
        - Transformers

} Read:




Chapter 7