

SUMMARY OF APPROXIMATE* DESIGN TRADEOFFS

	GAIN	BANDWIDTH	GAIN-BW PRODUCT	POWER	OUTPUT NOISE	INPUT NOISE
GAIN		-	+	O	+	O
BANDWIDTH	-		+	+	+	O
GAIN-BW PRODUCT	+	+		+	+	O
POWER	O	+	+		-	-
TOTAL OUTPUT NOISE	+	+	+	-		
INPUT NOISE DENSITY	O	O	O	-		

- +** DIRECT RELATIONSHIP (e.g. increasing BW increases total output noise)
- O** LITTLE/NO RELATIONSHIP (e.g. increasing BW does not affect input referred noise)
- INVERSE RELATIONSHIP (e.g. increasing BW reduces gain)

* NOTE: Indicated tradeoffs assume other factors are held constant. HOW you change things makes a difference! For example, the bandwidth-output noise relationship is +, the power-output noise relationship is -. If bandwidth is increased by increasing power, the effect on output noise could be +, -, or relatively unchanged. If bandwidth is decreased by reducing load capacitance, then output noise will increase. The intent of this table is to guide design decisions; once you've made a preliminary decision always check with a full analysis.